THE BUILDER

Incorporating

ARCHITECTURE & THE BRITISH ARCHITECT

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THIS WEEK'S NEWS

PRELIMINARY DETAILS of the arrangements for the Coronation, which is to take place next June, were announced by Mr. David Eccles, the Minister of Works, on August 1. Designs for the temporary transformation of the interior of Westminster Abbey and the erection of an annexe at the west end are expected to be made public towards the end of the year. p. 191

SOME SUGGESTIONS for the possible setting up of a research organisation in the building industry are contained in a second article on "Research and the Industry." The first article on this subject appeared in our issue of June 6 last. p. 201

SPEAKING in Liverpool recently, Mr. J. Ian Robertson, president of the National Federation of Building Trades Employers, said an extra 6d. an hour increase for building trade operatives would add over £60 to the price of a three-bedroomed house and would increase the annual cost of building by 50 to 60 million pounds. p. 203

BEFORE PARLIAMENT ROSE for the Summer recess, Mr. Marples stated that the cement makers had been asked to make available additional supplies to the Liverpool area, where shortages have been reported. p. 205

DEVELOPMENT in plumbers' technical training intended to link up courses of study previously available are referred to in a statement issued by the Plumbing Industry Further Education Council, which has issued new syllabuses. p. 206

RHODESIA is to build a University which will serve both the North and South territories. It is hoped that plans for the first buildings and the general layout of the site of 250 acres will be complete by the end of the year. p. 210

THE PRICE OF CEMENT packed in paper bags has been reduced by 2s. 9d. a ton with effect from August 5, according to a recent announcement by the Cement Makers' Federation. p. 214

SACRED ART

WE refer with some diffidence to reports of a new "Instruction" issued to the bishops by the Sacred Congregation of the Holy Office in Rome, occasioned by what is described as "the continuance of a tendency to deviate from the rules laid down by the Roman Catholic Church in questions of sacred art."

To explain at once our position, it is obviously not this newspaper's concern to engage in religious controversy, or its wish to offend denominational susceptibilities. But the principle raised apparently concerns professionally all architects engaged in ecclesiastical work, as well as the building and ancillary arts and crafts. That is this paper's concern, and we hope may be commented upon in its columns without charge of impertinence or irreverence.

The contents as reported consists largely of somewhat minatory injunctions suggesting general disapproval of the contemporary artistic idiom in some of its forms. This is familiar in other spheres, as is the marshalling of moralist or doctrinal argument to determine what are, in the final analysis, matters of taste. But here the disapproval is backed by an unusual weight of authority, and a condemnation of certain (unspecified) "corrupt and errant" art-forms. In effect, the document seems to question the generally held concept that, while it is the function of the church to say *what* shall be built or represented as symbolising the Christian faith, it is the prerogative of the artist to say *how* this shall be done.

The whole splendid history of religious art surely justifies this natural division of responsibility, and shows the artist as generally to be trusted to offend neither against religious nor personal susceptibilities: it goes without saying that he must be of the right calibre, and feel called to such work.

In reaffirming that the function of sacred art is to enhance the beauty of the house of God and to foster faith and piety, the document is reported to refer to the "objection" [*sic.*] sometimes raised that "sacred art must be adapted to the necessities and conditions of the present time." This apparently valid consideration is dismissed as being of no moment, "since sacred art . . . has its own ends, from which it can never diverge, and its own function, which it must always fulfil."

This has occasioned some bewilderment. "Objection" by whom, and to what? For while the statement of aims is unexceptionable, surely there is no incompatibility in the service of timeless and unchanging ends by an art which also adapts itself to the present. We are at the moment preoccupied in evolving a secular architecture which serves the basic and unchanged needs of people who do not change, but whose ways of living change and whose architecture must reflect those changes if it is to live. Is not religious architecture similarly to reflect the times?

In this document there is even a disturbing likeness to be seen to a factor inhibiting the progress of domestic architecture—insistence on preconceived ideas of what a house should look like; but in whose eyes, and judged by what standards are timeless criteria established? Substitute "church" for "house," and the analogy is complete.

One wonders if the implications of the Instruction are what they seem, what its authors' ruling would have been upon, say, the Baroque or the Renaissance style when the decline of Gothic set in. Might not the mannerist genius of an El Greco be condemned by them as "deformity," the archaic simplicity of Norman sculpture as "debased"? The exuberance of a rococo altar might well be said to "scorn simplicity in order to indulge in empty artifices"—an error deprecated in an encyclical to which the present Instruction makes reference. Nearer Rome, do not the Ravenna mosaics seem to "err" somewhat towards Byzantium? All these epithets are used in the document.

If the answer to these questions is affirmative, and those who at present have ministerial competence are now to have responsibility for artistic arbitration, active steps seem necessary to train up a new type of functionary in order that a Church may with their help determine not only the matter to be represented, but also the manner of its treatment. Indeed, the document, in conclusion, is understood to lay down that those appointed to the diocesan commissions of sacred art must be "experts in art." This is far from saying that a Church must once more employ permanently its own artists to carry out its own work, to its own precise specifications, in order to avoid what is at present evidently regarded as free-lance "deviationism." Is the alternative really the rigid control of both religious doctrine and its outward expression in art and architecture by the priesthood?

If so, this is a veritable "hierarchitecture"—a word we coin with all possible deference and gravity, not as a flippant or punning label but as echoing doubts in the minds of architects and others, which this newspaper feels called upon to make articulate at risk of rushing in where angels, let alone mortals, might fear to tread.

"SITE RECORDS FOR BUILDERS"

THIS booklet,* published by the Ministry of Works with the sub-heading, "Programming and Progressing for Traditional House Building," has as its main general object the education of builders towards better site organisation. In particular, it sets out to encourage the builder to pre-plan operations before work actually starts, thus making possible the programming of work and the eventual comparison with actual results achieved. It defines programming as "setting down in logical sequence all the things that will have to be done and estimating the time, labour and materials that will be needed for doing each of them." The booklet states that programming is the means of giving the builder proper control over progress and consequently over cost, the increasing of productivity and the reduction of cost being the two main ends to be achieved.

The post-war period will probably be remembered by most builders as a time of excessive government regulation. This has led to a situation where builders generally have found it difficult to progress their jobs, as was the case before the war, due to the fact that they have had to contend with the shortages of materials and insufficient or unbalanced labour forces. Some builders have erroneously assumed that advanced planning cannot be contemplated under such circumstances, and that progress charts are accordingly a waste of time; this Ministry of Works booklet endeavours to prove the fallacy in this argument, and suggests that each job must be pre-planned on the assumption that some labour and material shortages will be met. If they are not forthcoming, it is suggested that the builder can adjust his progress chart accordingly on the assumption that it is surely better to have a definite plan, whether or not it has subsequently to be adjusted, rather than have no plan at all.

The booklet contains many excellent charts, all of which would pay for close study by house builders. Illustrations A, B, C and D show simple programme and progress charts for the construction of 30 houses under five main headings, i.e., foundations, carcass, roof, finishings and services. The remaining charts E, F and G, for the same number of houses, provide for far more detail. Chart F in particular divides the construction of a pair of houses into 37 units and combines various factors, i.e.:

(1) Quantity of work to be performed, extracted from the Bills of Quantities (the accuracy of such should be checked).

(2) Plant, type of labour, man-hours per unit, man-hours for each pair of houses, and man-hours for the total 30 houses.

This chart, therefore, sets out not only to plan the progress of the whole job, but also to control from its inception the cost and quantity of both labour and material.

By way of criticism, it is suggested that the more complicated the chart becomes and the more difficult it is to follow, the less use it is for day-to-day reference. Charts F and G, particularly the latter, would rather appear to embrace more detail than can be readily appreciated at a glance. Graphic representation in the form of charts is a means of quick reference, and directly this ceases to be available its usefulness becomes a doubtful quantity.

In regard to the preparation of Progress Charts, whereas in the past they may have been prepared by rule-of-thumb methods, they can now be produced with some mathematical accuracy as to quantities and man-hours.

Part III of the booklet suggests to the industry how to arrive at estimated requirements of labour, plant and materials, and also sets out in detail abbreviations for the trades in the industry. It is not an easy matter to extract from any bills of quantities the man-hours required for each unit of work.

* Stationery Office, 3s. net.

It would seem that bills of quantities could be improved and units per man-hour readily ascertained if there were three pricing columns instead of the present one; the first column to be used for pricing the net labour; the second for net materials; and the third for sub-contractors and nominated sub-contractors; overhead percentages and profits being added at the end. This idea would also greatly assist in bonusing and in the preparation of scientific progress charts.

Now that suggestions are being requested for a new edition of the Standard Method of Measurement, one idea which may be well worth while is to simplify the varied units of measurement used. Why cannot brickwork, painting, plastering, concrete paving and a host of other items be described as so many squares and feet super? These two units of measurement could with practice describe probably 75 per cent. of the items in every bill of quantities.

In conclusion, the booklet suggests that the principles described can be applied to kinds of building work other than housing, and that the sequence and timing of building operations on any job are matters for a contractor's own judgment. Let no builder, therefore, draw the false conclusion that a thorough knowledge of the booklet would lessen the need for initiative or that it would overcome the day-to-day practical problems as and when they arose. On the other hand, he that reads, marks, learns and inwardly digests cannot help but be a wiser man. The builder's future aim should be progress towards the ideal, with an emphasis on simplicity.

EDUCATION FOR MANAGEMENT

THE Building Apprenticeship and Training Council's Special Report* on Training for Management, just published, comprehensively reviews the facilities which at present exist for training the managerial and supervisory grades of the industry and details the recent progress made with this important aspect of industrial education.

The Council's recommendations echo the views that have been widely expressed for some time by a number of the more progressive leaders of the industry, and rightly emphasises again the essential part to be played by employers in developing management studies. It must be obvious that there can be little real progress in this matter until there is a far clearer and wider understanding by all employers of the pattern of technical education, and it is appropriate that the National Federation of Building Trades Employers' Survey of Technical Education† is commended as a document meriting the widest circulation and scrutiny.

The building industry has a long way to go in evolving more modern managerial techniques, and the Institute of Builders could make a very valuable contribution in this field of industrial research and demonstrate that it is fully alive to its responsibilities and has among its membership men of vision and drive. The recently elected Institute Council, under the guidance of its new President, will deserve well of the industry if early it directs its attention to the urgent matter of increasing efficiency by a detailed study of existing managerial and administrative practices and by letting the industry know far more about its work and activities in the future than has been the case in the past. It is only by co-operation, frank discussion and the free interchange of information and views between the various interests concerned that any appreciable advance can be secured in improving present standards of management and ensuring the proper education of future young entrants to the industry.

The Building Apprenticeship and Training Council's Report is timely and encouraging to those individuals who are actively concerned with these problems of industrial education, and it is to be hoped that it will help to stimulate considerable activity in the right quarters.

* Building Apprenticeship and Training Council Special Report—"Training for Management." H.M.S.O., dated February, 1952 (issued July 28). Price 6d.

† A Survey of Technical Education in the Building Industry. The National Federation of Building Trades Employers, 82, New Cavendish-street, W.1.

NOTES & NEWS

CORONATION PLANS

PLANS for the Coronation, announced last week by the Minister of Works, indicate that preparations are well forward for the ceremony, now only 10 months off. Mr. Eccles drew a clear picture of the task confronting his Ministry—to set the stage for what he described as "the world's most glorious and moving pageant." Stands providing seats for 98,000 people will be built (using tubular scaffolding and timber from stock). About one-third of a million flowering plants will be brought to perfection for floral decorations; their disposition will be aided by a consultant. While the Minister announced that it was too early to describe the scheme of decorations, his statement that the Ministry is considering new fabrics produced by the textile industry indicates that gaiety and lightness—suitable to the crowning of a young Queen—will be the keynotes.

Architectural interest centres largely on the plans for transforming the Abbey into a coronation theatre and for the temporary annexe at the west end for marshalling the processions. These will be under the direction of Mr. E. Bedford, A.R.I.B.A., chief architect, Ministry of Works, and designs may be expected to be made public towards the end of the year; it is known, however, that the intention is to design the annexe in a contemporary style.

By reason of Mr. Eccles's remark that "the traditions and ceremony are inherited from the past and must be scrupulously preserved, but it is our duty to express in colour and design the age we live in, and the Queen who is to be crowned," publication of the designs for this annexe and for the fabrics, carpets and special furniture to be provided will be awaited with great interest.

L.C.C. RECEPTION

THE 1,500-odd guests attending the L.C.C. annual reception (at the invitation of the chairman of the Council, Mr. Edwin Bayliss, D.L., J.P., and Mrs. Bayliss) at the Royal Festival Hall on July 30, made full use of all the excellent facilities which the building had to offer.

The rather austere committee rooms and bleak corridors of County Hall (which has been the scene of the reception in previous years), are, perhaps, not the ideal setting for the gay festivities associated with this event. The concert hall, however, was a complete contrast; it provided an extra sparkle to a full evening of varied entertainment and interest.

Dancing was continuous throughout almost the whole evening in the sunken foyer. For those who felt less vigorous, Miss Ruth Bridburg gave a pleasing pianoforte recital in the meeting room at the fifth floor level, while in the ceremonial foyer on the same floor, an exhibition "Three Genturies of the River Thames" provided a display of unusual interest.

The principal feature of the programme was a performance by members of the Festival Ballet. For this, the orchestra platform in the concert hall had been converted into a temporary stage with the most effective result. The conversion was carried out by the ballet company itself with the collaboration of the architects for the hall.

Music on the terrace was played by the band of the London Fire Brigade, and the programme ended with an illuminated water display on the riverside promenade.

T.P.I. SUMMER SCHOOL

THE Town and Country Planning Summer School (under the auspices of the Town Planning Institute) is to take place at Bangor from August 23 to 30. All meetings and discussion groups will be held at the University College, and the chairman for all sessions will be the president of the School, Sir George Pepler, C.B., PP.T.P.I., F.R.I.C.S.

The following papers will be read: "Bangor and its Surroundings," by Mr. Clough Williams-Ellis, M.T.P.I., F.R.I.B.A., F.I.L.A., "The Place of Housing in Town and Country Planning," by Sir George Pepler, C.B., PP.T.P.I., F.R.I.C.S., "Some Rural Social Trends," by Mr. H. E. Bracey, M.Sc., Ph.D., "Design and its Relation to Economic Factors," by Professor Gordon Stephenson, B.Arch., M.T.P.I., F.R.I.B.A., A.I.L.A., "The Development of New Towns," by Mr. W. O. Hart, C.M.G., and "World Economic Trends in Urban Development," by Mr. E. A. Rowse, A.M.T.P.I., A.R.I.B.A.

LECTURER IN ARCHITECTURE

APPLICATIONS are invited by the Hong-Kong University for the post of lecturer in architecture. The salary offered is £1,240-£1,480 with £160 allowance for a married man. First-class sea passages and accommodation will be provided. Further details were given in last week's issue.

SMOKELESS MANCHESTER

MORE than 20 years after smoke abatement societies were formed in Manchester legal prohibition of the emission of smoke in the centre of the city came into force on May 1.

Throughout the area of the Manchester and district smoke abatement committee investigations by local authorities are proceeding on two separate schemes. One group comprises 25 local authorities around Manchester on the north and north-east, and the other has nine authorities on the south-west of the city.

When surveys are completed it is expected that many of the authorities will declare smokeless zones, either in smaller groups or separately. They are concerned not only with house property but with industrial premises, particularly new power stations or extensions to existing stations which are considered potential sources of pollution by sulphur fumes.

Outside this area Bolton has taken powers to deal with smoke but has not yet enforced them, and Bury, Chorley, Leigh, Preston, and Warrington are making detailed observations of their own.

COMING EVENT

FRIDAY, AUGUST 8

THE BUILDING CENTRE.—Exhibition: "Architects of Tomorrow". 26, Store Street, W.C. Open until August 16. Monday-Friday, 9.30 a.m. to 5 p.m.; Saturdays, 9.30 a.m. to 1 p.m.

"I know you want a larger house, but we still can't compete with your rate of production!"

An interesting point, which reflects the diverse problems involved, is that while Manchester has designated the business centre as a smokeless zone, Salford has chosen residential suburbs and Rochdale a central area in which there are several mill chimneys.

LESNES ABBEY

SENIOR secondary school pupils are invited by the L.C.C. to excavate during their holidays the site of Lesnes Abbey, at Erith, which has been under investigation for nearly half a century by the Woolwich and District Antiquarian Society. The work now being done with the co-operation of the Historical Records section of the L.C.C.'s Architects' Department is under the honorary direction of Mr. F. C. Elliston Erwood, F.S.A., who was an active member of the Society when the first excavations were undertaken 40 years ago. The L.C.C. acquired the site from Christ's Hospital in 1930.

AN ARCHITECT'S ESTATE

MR. J. J. JOASS, F.R.I.B.A., left £41,086 gross estate (net personalty £39,262).

PROFESSIONAL ANNOUNCEMENT

MR. ALWYNE TUTTON, A.R.I.B.A., of Gainsford House, Cowden, Kent, has moved to Melbury Down House, Shaftesbury, Dorset. (Tel.: Shaftesbury 2518.)

FROM "THE BUILDER" OF 1852

Saturday, August 7, 1852

SCHOOLS OF DESIGN.—According to the return which has just been printed, it appears that, in the metropolitan schools (five in number), there are sixteen professors, masters and assistant masters. The highest salary is 300 l. with a portion of fees; the lowest, 32 l. with a portion of fees. The head master, who receives 300 l. a year, is engaged twenty-two hours and a half per week; and the assistant master, with 32 l. a year and fees, is engaged only five hours in the week. In the provincial schools there are forty-one masters, and the salaries vary from 25 l. to 300 l. Some of the county schools, we may here mention, want looking to. The local boards do not do their duty.

SGRAFFITO

An Ancient Decorative Art Comes into Current Use

[*By a Correspondent*]

AN ancient art in the form of Sgraffito work is becoming popular as a decorative medium in the place of the more normal type of painted murals. Revived by a well-known member of the Society of Mural Painters, two examples of his work are illustrated.

Sgraffito, one of the earliest known forms of art, was a popular exterior decorative medium in Italy, from the sixteenth century downwards. The Italian school mainly worked with lime-sand plasters, with pigments incorporated in various colours, applied coat on coat, and, while still soft, cut and worked into geometrical designs and flowing arabesques intermixed with grotesque figures. It is of interest to note that for Sgraffito it was laid down that the lime used should be run into a putty and allowed to stand and mature for at least three years before use.

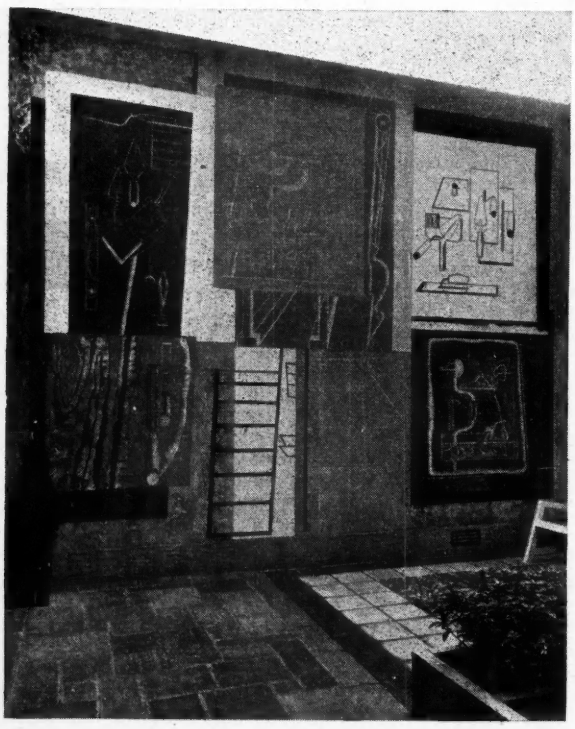
The durability of Sgraffito decoration, if properly carried out, is shown by the examples in Northern Italy and on the palaces of Tuscany which, after some 400 years of exposure, are still in a good state of preservation.

SOME ENGLISH EXAMPLES

It seems that Sgraffito was never popular in this country but a certain amount of this form of decoration was carried out in England during the nineteenth century, mainly for church decoration. Examples which were carried out in 1892 and 1897 and are still in good condition can be seen at the Parish Church, Sunbury, and All Saints Church, Ennismore-gardens, London.

Sgraffito mural at Woodberry Down LCC Primary School. Designed by Augustus Lunn.

Although to all intents and purposes a lost art so far as this country is concerned, Sgraffito was a common form of decoration in pre-war days in Germany, Austria, Italy, etc., the work in the main being carried out by plasterers to designs prepared by the architect or by an artist. Its value as a permanent form of external decoration is shown by its incorporation in the structure of the Karl Marx flats, erected in Vienna in 1930. The film entitled, "External Rendered Finishes," issued by the Building Research Station, includes views of this example and illustrates how Sgraffito in the modern form has been embodied as a permanent decoration on the exterior rendering.



Sgraffito mural at the Building Centre. By Augustus Lunn.

SGRAFFITO ON SOUTH BANK

It was not until 1951, when the Festival of Britain South Bank site was opened, that interest was again aroused in this country in Sgraffito work. At the Seaside section on the river front, Mr. Augustus Lunn executed a Sgraffito mural 40 ft. in length and 8 ft. high, which was semi-abstract in form and nautical in character. In view of the fact that Italian Sgraffito work carried out in the sixteenth century is in amazingly good condition to-day, Mr. Lunn felt that he could do no better than to follow the old specification as far as it was possible with present-day materials, and with minor modifications a similar specification was used in the execution of the Sgraffito mural which overlooks the Building Centre Garden, also carried out by Mr. Lunn.

A third Sgraffito mural has now been executed by the same artist at the L.C.C. Woodberry Down Primary School. Overlooking the main staircase and covering an area of 152 sq. ft. the mural, symbolic of school life, is probably the most ambitious effort in Sgraffito work yet attempted by any artist in this country. The specification follows as nearly as possible sixteenth-century Italian method and materials.

METHOD AND MATERIALS

In carrying out the work the procedure followed was first to apply over the brickwork a keying coat composed of 2½ parts of coarse grit to 1 part of cement, this being thrown on to the surface at a thick-

ness of ¼ in. and left untouched. When set, a levelling coat to act as the working base was applied of a thickness of ½-in., composed of 1 part of sand to 1 part of hydrated lime to 1 part of Portland cement. On to this prepared base a black-coloured rendering coat was applied at a thickness of ¼ in., this being composed of 1 part of lime putty to 3 parts of sand coloured with cementitious black. When the black background coat had hardened a little, thin plaster coatings were then applied composed of 1 part of sand to 1 part of marble dust to 1 part of lime putty, with cementatious colours incorporated to form a variety of coloured finishes in red, blue, yellow, white and black.

The mural was then formed by pricking through a full-sized cartoon to set out the design on the plaster work, the artist then cutting through the semi-soft coloured plaster work to expose the different coloured plaster undercoatings.

The technical service department of Messrs. Joseph Freeman, Sons and Co., Ltd., co-operated in giving technical advice and in supplying practical assistance on site. From test work it was found that run-lime putty gave better results than prepared hydrated lime, and in carrying out the work they had the advantage of using a lime putty which had been run and in store for a period of two years. Although no Portland cement was used in the finishing coats, the finish formed is extremely hard and gives every indication of standing up well to weather.

CORRESPONDENCE

STEEL CONSTRUCTION REPORT

To the Editor of *The Builder*

SIR,—I have read with interest the article in your issue of July 25 on the Anglo - American Productivity Team Report " Steel Construction." In reply, may I say that the report is primarily intended for the information of the trades interested, and the principal firms are so sufficiently impressed with the contents as to provide all members of their technical and administrative staffs and leading tradesmen with copies.

In regard to your criticism of the paucity of positive recommendations, this matter was fully considered, and it was deemed wise not to draw up a specific list of recommendations, but simply to indicate differences between British and American methods and leave it to the members of the industry to draw their own conclusions, relying upon the old adage " That those who read may learn."

It is worthwhile to give you the opinion of the president of the American Institute of Steel Construction, who is also president of a constructional concern with three works typical of the average American and British firms, independent of steelmaker fabricators, who in a letter to me of July 23, writes " I have read the report of the Productivity Team on Steel Construction with a great deal of interest. We are arranging to have copies circulated in our organisation and believe that they will be a stimulus to the thinking of our executives and department heads throughout our entire organisation," which I suggest rebuts your criticism.

It is well known in the steel construction industry that plans have been in existence for some time for a new steelworks in this country to produce wide flange beams similar to those in use in U.S.A., and but for prevailing conditions these works by now would no doubt have been well under way.

The emphasis on labour saving in the report may be regarded as a realisation that labour is also an expensive commodity in this country, and I suggest that this emphasis is well directed, as are the observations on the attitude of American trade unions and operatives to high production.

The fact that no actual operation of steelwork erection was seen was not due to any lack of search by the Team but to prevailing conditions in the U.S.A., as in New York City only one completed frame was up, and in Chicago and Pittsburgh only three in each city. On the Chesapeake Bay Elevated Roadway a particularly interesting lift had been arranged to coincide with our visit, but unfortunately weather conditions prevented its accomplishment.

As stated in the Report, it was possible to envisage the methods employed, and the tackle used is sufficiently described to illustrate to steelwork erectors where American tackle is in advance of British. The instances given in the Report of the time taken in erection of the contracts mentioned certainly emphasises that steelwork erection is speedier in America than in Great Britain.

In conclusion may I say that the Report has been well received in the industries concerned.

H. B. DENTON, Leader,
Constructional Steelwork, Bridge Building and Mechanical Handling Industries Productivity Team.
Wadebrook Steelworks,
Northwich, Cheshire.

A POLISH STUDENT'S DESIGN

To the Editor of *The Builder*

SIR,—In the article on the Polish University College (*The Builder*, July 18), Mr. E. Passmore described one of the exhibits as " an excellent statement of Aalto's idea for a ' pre-lift ' office block. . . . "

As one of the authors of the research design (Mr. Szanski being the other) I would like to state that our intention was not an elaboration of Alvar Aalto's " pre-lift " system but the finding of an economical and satisfactory solution for multi-storey office buildings. The floors do not consist of R.C. precast and lifted slabs but of prefabricated steel trusses and decks assembled on the site. The proposed building consists of an R.C. core containing all communications and services and supporting R.C. frames at roof level from which steel cables are suspended at 4 ft. 8 in. centres. These cables carry the floors in place of the traditional column construction. The advantages of the design are best illustrated in the sizes of the cables: to suspend the first to sixth floors a steel section of 2 in. by ⅝ in. is required, to suspend the seventh to twelfth floors two 2 in. by ⅝ in. sections, floors thirteen to eighteen three 2 in. by ⅝ in. sections, floors eighteen to twenty-three four 2 in. by ⅝ in. sections. The sections form window mullions, and can take partitions at the standard 4 ft. 8 in. module. The economy in materials and increase in floor area, in addition to a complete freedom in planning the individual office space, is considerable.

I would be grateful, Sir, if you would kindly publish this short description of our design rectifying the description of Mr. E. Passmore.

Z. KESLER.

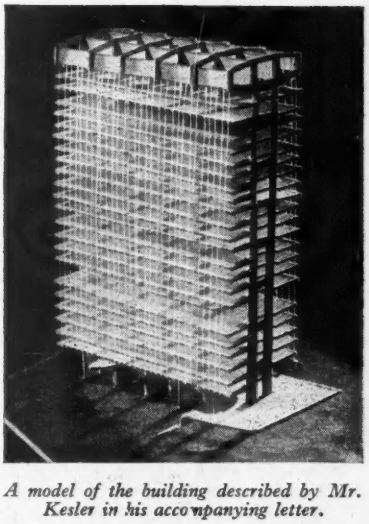
6, Poplar-grove, W.6.

SCOTTISH BUILDING GLOSSARY

To the Editor of *The Builder*

SIR,—Replying direct to the editor of the Scottish National Dictionary, whose letter you published on July 11, I mentioned that I had frequently met with *fielded panels* in England (although austerity is making them rare) but had not heard of *cherry cocking*. Mr. Murison has kindly sent me further information about those words which I should like to quote. He writes :—

" Your remarks on *fielded panel* raise more problems for us and reinforce what I had to say on the great need for a full-scale work on the vocabularies of the various crafts. The large Oxford English Dictionary does not treat the word *field(ed)* in this sense at all, but gives only *fielding-plane*, the tool for fielding, with a single reference, viz., to Jamieson's Scottish Dictionary of 1828. Jamieson does in fact give *field*, the verb, as well. *Fielded panel* is given without locale in Webster's Dictionary, and may be also an American usage, though again I cannot find it in the two large dictionaries of American English published in the last 20 years —those of Craigie and Matthews. Nor have I been able to find *field, fielded panel*, etc., in Gwilt's Cyclopedia or



A model of the building described by Mr. Kesler in his accompanying letter.

in the few books on carpentry I have at hand.

"We are therefore in the quandary of not being absolutely certain whether the usage is originally Scots or not, for want of clear evidence one way or the other.

"I am sorry to burden you with all these details of lexicography, but have brought them in just to show how inadequate are the existing technical glossaries.

"Regarding *cherry cocking* we have never actually seen the word in print, but it is certainly current among masons in this part. It refers to the practice of pressing pebbles, flints or small coloured chips into fresh mortar in joints of rubble, or even ashlar where the joints are fairly wide. Sometimes a whole gable is thus filled after roughcasting, giving a mosaic effect. The joints of the University Chapel here, which is medieval (16th century) are so treated, and at least one builder here still tries it out."

David Murison, and some of your correspondents, are beginning to drag me out of my depth, and it may not be long before I am calling for someone to rescue me! Mr. Macdonald added some useful information on July 25, but his opening remarks remind me of the couplet: *the further off from England, the nearer it is to France*, which may well be applied more aptly to Scottish terms than English.

It is clear that the last word is not said yet, and I have been expecting more scathing criticism than has so far come to hand.

Cherry cocking meanwhile is a bonny child; would it be that it bears any relation to *flint knapping* now?

R. E. BULLOCK.

"Braders," Forest-road,
Tunbridge Wells.

THE QUANTITY SURVEYOR'S CLAIM TO DIRECT BUILDING OPERATIONS

To the Editor of *The Builder*.

SIR,—I have followed with interest the correspondence which has appeared in your columns under this heading, but have been amazed to note how few are the writers who have grasped the real problem.

The correspondence started as a result of the closing words of Mr. John Allan's letter (*The Builder*, June 6), viz.: "... when is quantity surveying to be put in its proper perspective?" "City Quantity Surveyor" has tried to show the role the quantity surveyor performs as distinct from the place he is accorded, but it would appear from Mr. Allan's second letter (*The Builder*, July 11) that this is not what he had in mind. Rather does Mr. Allan complain that the professional quantity surveyor's services are wasted because the bill of quantities which he prepares cannot be used for the ordering of materials when the building is under construction.

I would contend that this criticism should not be laid at the door of the professional quantity surveyor; it is his earnest desire to have the whole of the working drawings and details available for the preparation of the bill of quantities on which tenders are invited. If this were done and the drawings adhered to in carrying out the work, the bill of quantities could be used for the ordering of materials and the running of the job whilst the settlement of the final account would be automatic.

Pressure from clients, both public and private, to start work on the site at the earliest possible moment is greater than ever to-day, and is resulting in the professional quantity surveyor being urged to produce tenders before the architect has prepared even his working drawings, let alone his details, with those results with which we are all familiar—the impossibility of using the bill of quantities for the running of the job, variation orders innumerable, underpayment on interim certificates and long delays in the settlement of final accounts.

The simple necessity of earning a living forces the professional quantity surveyor to accept this position against his better judgment, and the architect is in exactly the same position.

This commencement of actual building operations before all the preliminary work is completed is the real problem, and it will not be solved until all parties concerned, the architect and the builder no less than the quantity surveyor, combine together and resist this pressure from persons who do not understand how to conduct building operations. If it is not solved by the resistance of these three or by economic pressure, I can foresee chaos in the industry which supports us all.

TOM KINSELLA [F.R.I.C.S., A.I.Arb.]

14, Park-avenue,
Romiley, Cheshire.

To the Editor of *The Builder*

SIR,—I accept the facts and tendencies which "City Quantity Surveyor" introduced (your issue June 20) to support the quantity surveyor's claim to direct building operations, but these facts and tendencies—being conditioned purely by a change in society and the reluctance of certain architects to adapt themselves to this change—are too superficial and transitory to condemn the architect to a permanent position of subordination, and therefore I reject your correspondent's reasonings and would hasten to defend the architect's position.

Undoubtedly the present economic situation, coupled with the development of new building techniques, will to a great extent temper the architect's activities, but there is no reason to suppose that the architect is necessarily incapable of acknowledging this control and solving independently the problems implicit in it. Only in a restrictive capacity does the quantity surveyor control the architect. Can such a restrictive and negative control warrant the assumption of directorship of the industry? Again, the quantity surveyor is engaged primarily in analysis—analysis enabling the building scheme to be put on a sound financial and legal basis. Is it to be supposed that such an analytical process—which is subsequent to and contingent upon the synthetic process of planning and design—can receive primary consideration? Such supposition is a fallacy.

The architect is the designer and planner of buildings, and if he is unable or reluctant to appreciate and satisfy the exigencies and to observe the limitations of an age of financial difficulty and of development in building techniques, then he ceases to act in the capacity of a true architect. Assuming an eternal conception of the duties of the architect—i.e., as designer and planner in any circumstances—then surely the men capable of initiating and carrying out building schemes quite independently in the planning stage will be rightfully the directors of the industry, even though such a capability may not in practice ever be exercised.

Thus the architect is inherently the protagonist in the building industry, and I can but express the hope that architectural training establishments will endeavour, by a greater emphasis on the scientific aspects of design, to ensure that future architects are able fully to fulfil the task set before them.

THOMAS BARRON.

Caversham Heights, Reading.

*** Upon this spirited note from a member of the younger generation (who describes himself as "a prospective student of Architecture") this correspondence must now cease.—ED.

"WHO PAYS FOR SUPPLYING PRINTS"?

To the Editor of *The Builder*.

SIR,—Under this heading your special representative refers incidentally to the cost of copies of documents and in particular to the cost of copies of specifications.

The Royal Institution of Chartered Surveyors prefaces its scale of charges with a note to the effect that the cost of documents shall be paid for in addition to the scale fees. I am given to understand that this refers to the cost of copies over and above the customary number. I am therefore of the opinion that the scale fee includes for the provision of as many copies of the specification as can be typewritten in one operation, but that where the nature of the job calls for a greater number or for reproduction on more durable paper the extra cost of printing should be paid for by the client.

At the present time I am engaged in correspondence with the Chairman of the War Damage Commission which has recently suspended its previous custom of reimbursing the cost of printing specifications on the grounds that such a charge is not in accordance with professional practice, even though the Commission's original scale of professional charges as quoted in Butterworths Emergency Legislation included a note to the effect that the cost of documents would be reimbursed in addition to the fees.

In these circumstances, I agree with your special correspondent that the time is now opportune for the representative bodies to give a clear ruling as to who pays the cost of supplying prints and copies of documents.

E. M. CARROLL [F.R.I.C.S.].

Triangle Corner, S.W.14.

THE CORONATION, 1953

"Majesty and Gaiety" the Keynotes

THE Minister of Works, Mr. David Eccles, M.P., outlined at a Press conference on August 1, the preliminary details of the Coronation arrangements next June. He described the Ministry of Works as "the builder, decorator, electrician and stagehand of the world's most glorious and moving pageant," and outlined his Ministry's job as "to set the stage; to build a theatre inside Westminster Abbey; to provide seats and standing room, decorations and viewpoints along that part of the processional route which is Crown property; to arrange flowers, floodlighting, fireworks and other expressions of public rejoicing; and to take care of the Press, broadcasters and cameramen on the line of the procession." Points made by the Minister were :—

Westminster Abbey : The Ministry would carry out work necessary to provide the setting for the ceremony. This would include the covering up of monuments and tablets; preparation of the Coronation Theatre, the Sanctuary and Edward the Confessor's Chapel, as well as the design and erection of an annexe. This last would give an opportunity to harmonise a modern structure with the Abbey. Mr. E. Bedford, A.R.I.B.A., Chief Architect, M.o.W., would be responsible for the design of this and all structures in and around the Abbey and on the route. "A blend of majesty and gaiety" would be sought.

Coronation Route : The route (shown on the accompanying diagram) shows the Procession proceeding and returning by the Mall. Compared with 1937, the drive along the Embankment and down Constitution Hill was lost but the north side of the Green Park was gained. Stands on Crown sites would be set back where possible to allow the most effective margin for the standing public.

Stands : Open and covered seating for some 98,000 persons would be provided. The cost per seat was expected to be of the order of £3 10s. for open stands and £5 10s. for covered. This would cover the cost of erection. Principal M.o.W. stands would be outside the Palace; on both sides of the Mall; or the Park-lane side of the East Carriage-drive, Hyde Park; and the north side of Green Park; in Whitehall; in Parliament-square and Broad Sanctuary; and on the Colonial Office site (the old Westminster Hospital).

Stands would be built of tubular scaffolding and timber drawn from stocks, almost all of which could be used again. There would be no interference with building work.

Parliament-square and Broad Sanctuary : This area would be laid out in a single design of stands and decorations to represent all the realms and territories of which the Queen is head. The site of St. Margaret's Churchyard would also be brought into this scheme.

Route Decorations : The Ministry of Works was deep in the business of deciding what colours and stuffs and flowers and designs would give best expression to the occasion. The Minister was taking the advice of Mrs. Constance Spry on floral decorations. The City of Westminster and the City of London had respectively appointed Sir Hugh Casson and Sir Giles Scott to advise on schemes of decorations; they were co-ordinating their schemes with the Ministry of Works. Local authorities would be left to think out their artistic problems for themselves, though the Ministry was always ready to give advice. "I appeal to all London and the rest of the Kingdom who love a show and are proud to be the Queen's subjects to plan well ahead and make the best of this glorious occasion, whether they will be decorating a town hall, a shop front or a window box," said the Minister, who addressed an appeal to everyone who intended to paint or decorate to do so during the winter months when there was usually ample labour available.

Floodlighting : Schemes of floodlighting on Government buildings and along the route were being prepared. It was hoped that owners of other prominent buildings in London and outside would make similar arrangements. There would probably be a display of fireworks on a grand scale.

Scotland and Wales : The Minister had already discussed with his under-Secretary, Mr. David Macintyre, preparations which would be necessary should Her Majesty visit Scotland. Preparations might also have to be made for a Royal visit to Wales.

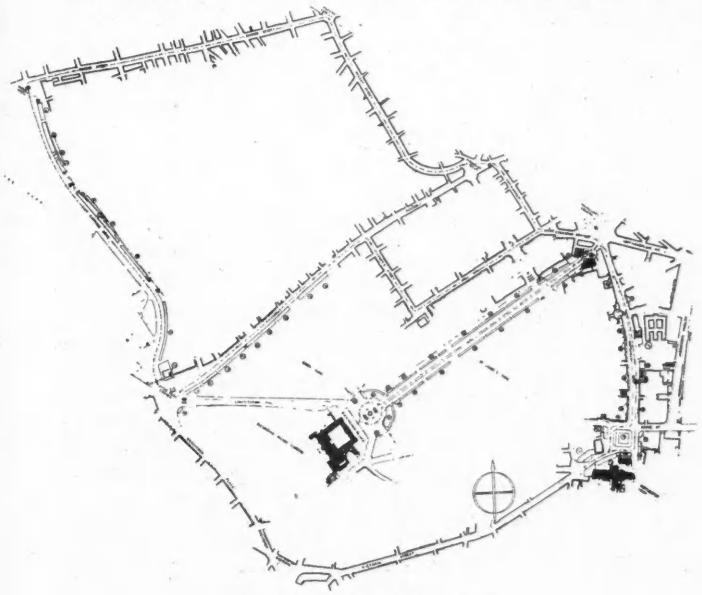


Diagram of the Coronation route.

CHURCH ROOFS

Prevention of Theft of Lead

THE following note on the subject of the theft of lead from church roofs is contributed by Mr. D. G. Martin, F.R.I.B.A., a member of the Roofing Committee of the Central Council for the Care of Churches :

A number of methods of preventing the theft of lead from church roofs have been suggested, consisting of two main types :—

(*a*) *Alarm Systems :* These are either operated by contacts or trip wires, or by means of balanced live circuits through electrical or electronic devices.

Any of these systems can be run on batteries or from the mains, and can either give a direct alarm (such as a bell or hooter) or be connected to an indicator some distance away by land line, so that the thieves are unaware that the alarm has been given.

Alarm systems of these types have been installed in some churches, and the Central Council for the Care of Churches will assist any incumbent interested.

(*b*) *Methods of Discouraging the removal of lead :* The methods suggested in these cases consist of the application of some sticky material, such as tar or bitumen, to make work on the roof difficult and unpleasant, or the application of a paint *or* sanded finish to camouflage the lead and to make the removal of the sheets more difficult.

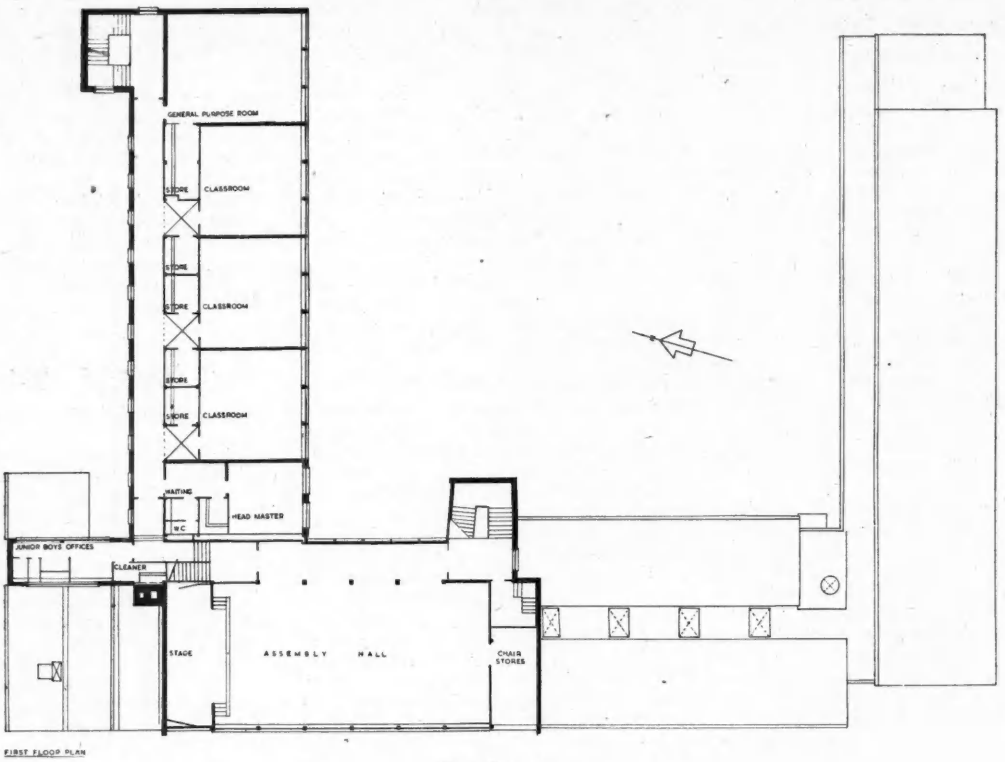
There are very great objections to the use of any of these types of material, quite apart from the fact that once the first sheet has been lifted the thief would not be much troubled by stickiness or any other surface covering.

Any such treatment is liable to restrict movement, especially at the joints, causing cracking of the lead due to fatigue of the metal. Also if the covering is dark in colour, it will cause greater thermal movement in the sheets (owing to increased absorption of the sun's rays), with consequent increased risk of cracking.

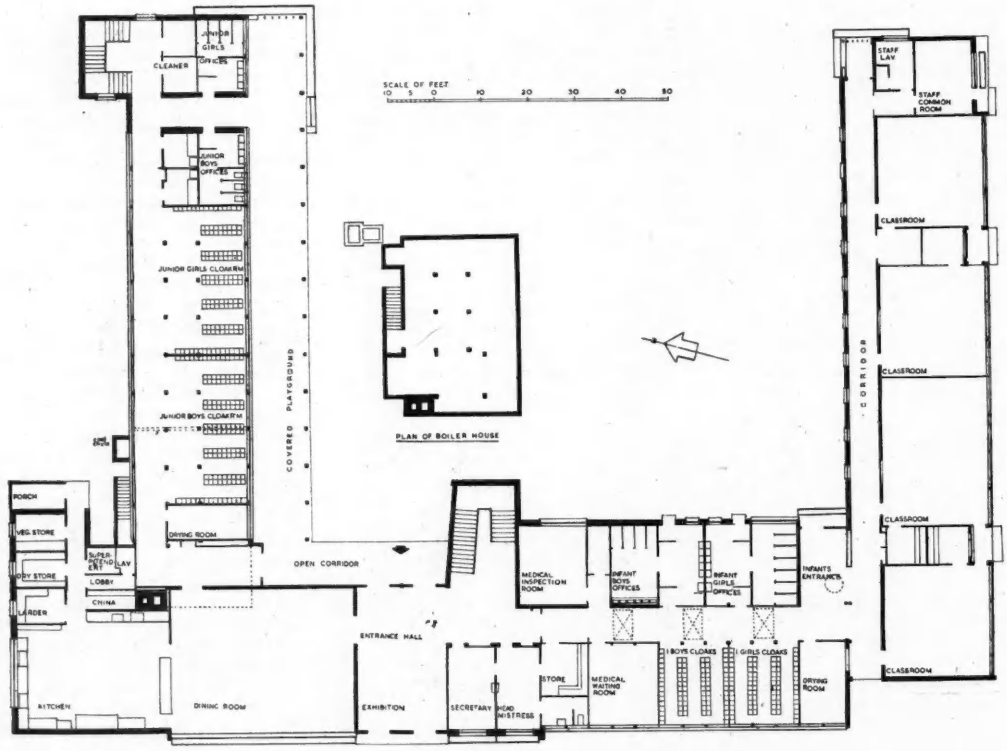
Any surface treatment will, of course, make normal repairs difficult, if not impossible, as well as materially altering the aesthetic appearance of the roof.

APPOINTMENT

MR. JOHN B. ROSS, Deputy County Planning Officer for Northumberland for nearly three years, has been appointed County Planning Officer in succession to Mr. G. Robson, who has retired.



First-floor plan.

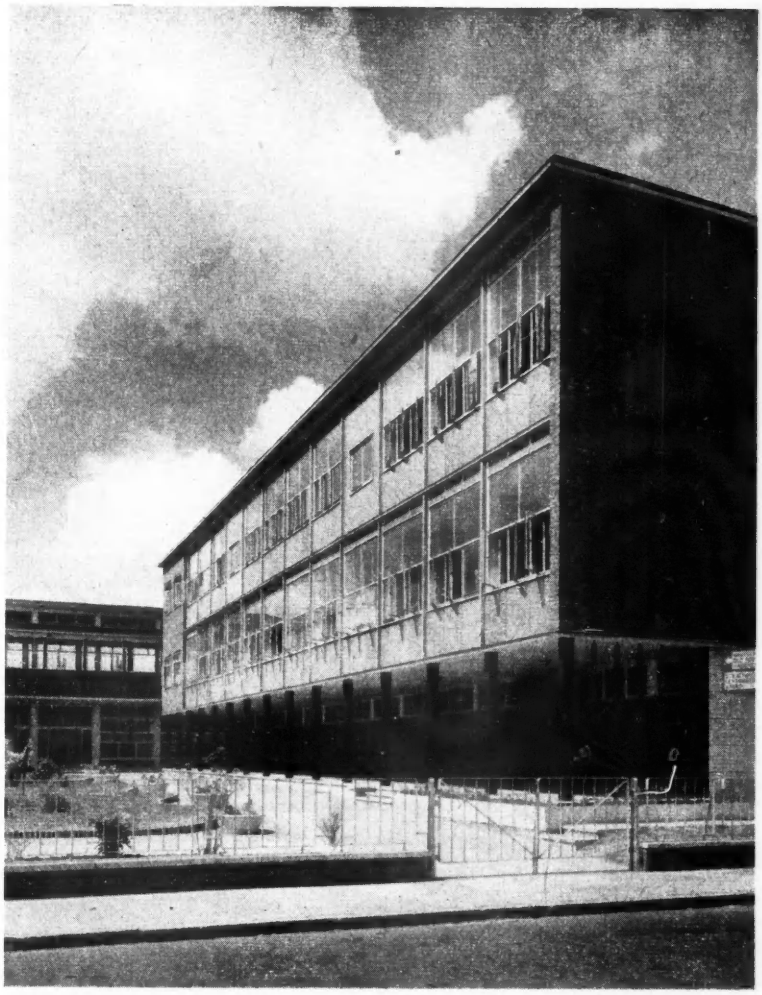


OLD PALACE PRIMARY SCHOOL, POPLAR: Ground-floor plan.

OLD PALACE
Primary School, Poplar, E.3.

C. C. HANDISYDE, ARIBA, ARCHITECT in association with HAMMETT AND NORTON, AA.RIBA, AA.Dipls.

R. H. MATTHEW, CBE, ARIBA, Architect to London County Council



The junior classroom block.

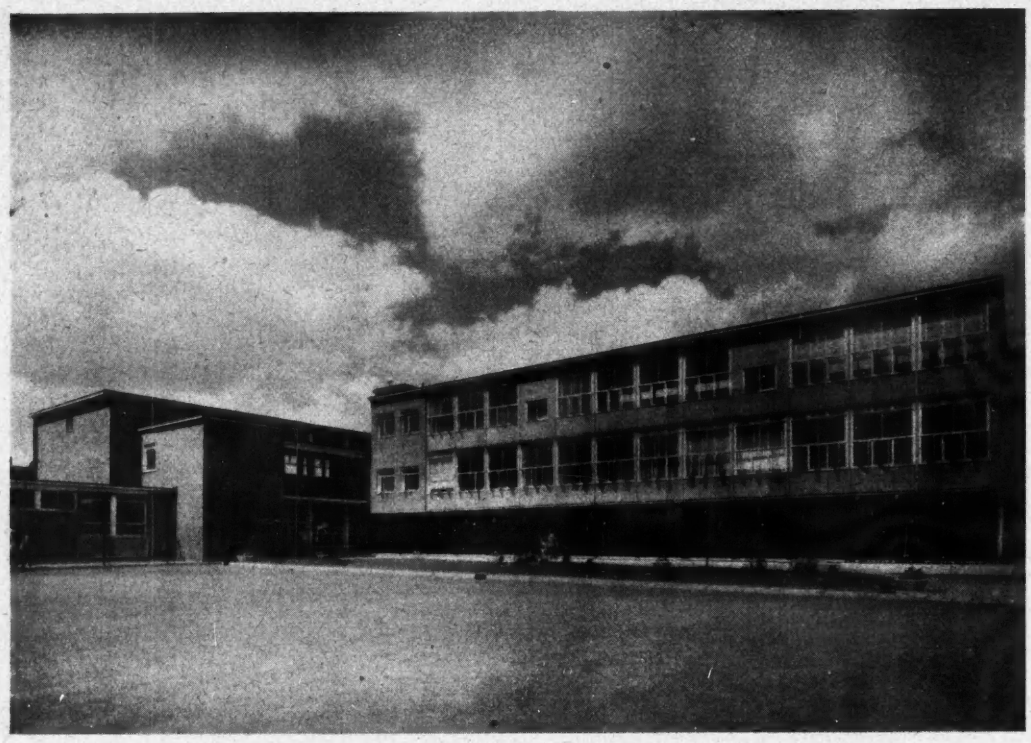
THE site on which this new school stands was formerly occupied by a school which was destroyed by bombing. The site is extremely small and covers only one acre for 240 juniors and 160 infants. However, the L.C.C. intends to extend the site for additional playcourts in the future ; this will also provide an entrance from a quiet road instead of from a busy main road as at present. The school was commenced under the Council's 1949 programme, and provision was made for drying rooms, projection room and stage, which would have to be omitted under the latest standards. Also a slightly higher quality of finish was possible.

The buildings consist of a three-storey juniors' block with cloakrooms on the ground floor, and classrooms and staff rooms on the other two floors ; a two-storey administrative block with the dining and exhibition halls, headmistress's room on the ground floor and an assembly hall on the first floor ; a kitchen which is a single-storey structure with north light roof ; and a single-storey infants' block and medical inspection room.

Foundations.—The depth of gravel varied between 10 ft. to 16 ft. below ground-floor level. As it was known that at least one building apart from the old school had been on the site, there were likely to be too many obstructions for piling to be economical and so mass concrete piers under each column were taken down to the gravel, with r.c. ground beams to carry the walls and partitions. The ground-floor slab was in waterproof concrete on hardcore completely divorced from the foundations, and carried no walls or partitions.

Construction.—The structure of this building is of particular interest because it was the first type of a form of construction which has since proved very suitable for schools, and which has now been used a considerable number of times. There is a flat roof to each block, the spans being 23 ft. for classrooms, 31 ft. for the dining-room and assembly hall. The construction adopted in every case was as follows :

The columns were of *in situ* reinforced concrete. The main beams spanning across the building consisted of a number of prestressed concrete soffits and precast trough-shaped units between, with *in situ* concrete on top to bond all the precast units into one monolithic structure. Fig. 1 (p. 195) is a cross-section through the typical floor construction. In order to reduce the production cost of these prestressed beams, standard units were designed which could, in fact, be used for a number of different buildings. As these units formed the lower part of the beam only, it was possible to use the same units for considerably different spans merely by varying the depth of the beam.



A general view of the main entrance, first-floor assembly hall and junior classroom block.

Long spans, for instance, over the dining-room and the assembly hall were dealt with by using double beams, i.e., putting two prestressed units side by side. The upper surface of the prestressed units were castellated in order to ensure adequate bond between the precast and *in situ* concrete. Where necessary ordinary steel was cast into the prestressed unit to take the shear at the ends. This was required, for instance, where prestressed units were supported on columns narrower than the beams.

This type of structure was designed to: (*a*) produce a very shallow construction with only a slight projection of the beams below the main ceiling; (*b*) reduce the quantity of steel (the total amount of steel in beams and floors was 2 lbs. per sq. ft.); and (*c*) economy of cost.

Hollow precast concrete units were arranged along the edge of the building connecting the *in situ* columns, and the units were filled with *in situ* concrete and thus incorporated into the general structure.

One particular problem, which arises in all school buildings, is the blind boxes. For architectural reasons it is usually desirable to countersink them at least partly into the ceiling; with the school at Old Palace this was difficult because although the beams were wider than the columns, the blind boxes had to extend over the full length of the windows, i.e., from column to column. This problem was solved by splitting the edge unit into two, one inside and one outside the blind box, and resting the prestressed unit on top of the inner one. However, in order that the reinforcement in the columns should be continuous, rebates had to be provided in the ends of the prestressed units, to fit round the columns. (See Fig. 2.)

The use of precast concrete presents a number of problems, and as the school at Old Palace was one of the first on which this type of construction was used, it gave an opportunity of studying the problems and gaining experience for future occasions. Generally speaking, there are three points to be considered: (*a*) The combination of precast and *in situ* concrete; (*b*) the provision of holes in the structure for services; and (*c*) the organising of the delivery of the precast and prestressed units.

(*a*) For this particular school it was decided to have cast *in situ* columns in order to avoid complicated connections between beams and columns. This made it necessary to alternate the erection of the *in situ* columns with the precast beams and floor units, one storey being erected at a time. The general contractor first cast the columns up to first-floor level, and then used a mast to erect the precast concrete beams and floor units of the first floor. The mast was removed and the *in situ* columns cast up to second-floor level. The procedure with the mast was then repeated for the second floor, the mast standing on the completed first floor which was temporarily strutted. The third floor was carried out in the same way. For the two-storey section of the building a mobile crane was used for a short time to erect the large prestressed beams of the first floor, which spanned 31 ft.

(*b*) There is no doubt that with a precast concrete structure there is a considerable amount of extra work both for the architect and the consultant engineer. Before the precast concrete units are designed and detailed it is necessary to have precise information of the layout of all services in order that holes and chases can be left for the pipe runs. While it is usually possible to obtain this information for the heating and hot water services, it is most difficult in the case of the electrical work.

In this case, all the requirements for heating and water services were obtained in time, but for electrical runs it was only possible to plan for a general arrangement of holes and chases in the precast units and *in situ* concrete, additional holes and

chases being cut afterwards. The principal electrical conduits were run between the top of the prestressed soffit beams and the precast floor slabs and concealed by the suspended fibreboard ceilings. Because the prestressed beams were wider than the columns, the conduit for vertical switch drops had to be cast in the precast concrete units to avoid awkward junctions with the horizontal runs in the ceiling.

(*c*) There is no doubt that where precast or prefabricated units are to be used in the main construction, a very carefully planned programme is required and must be adhered to

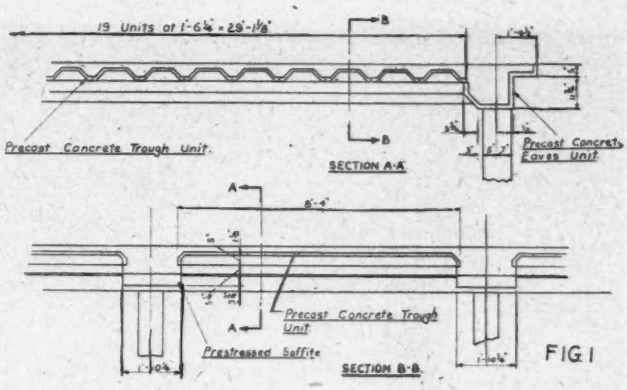


FIG 1

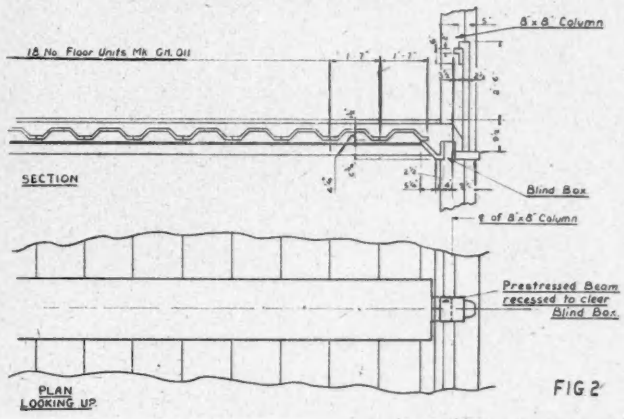
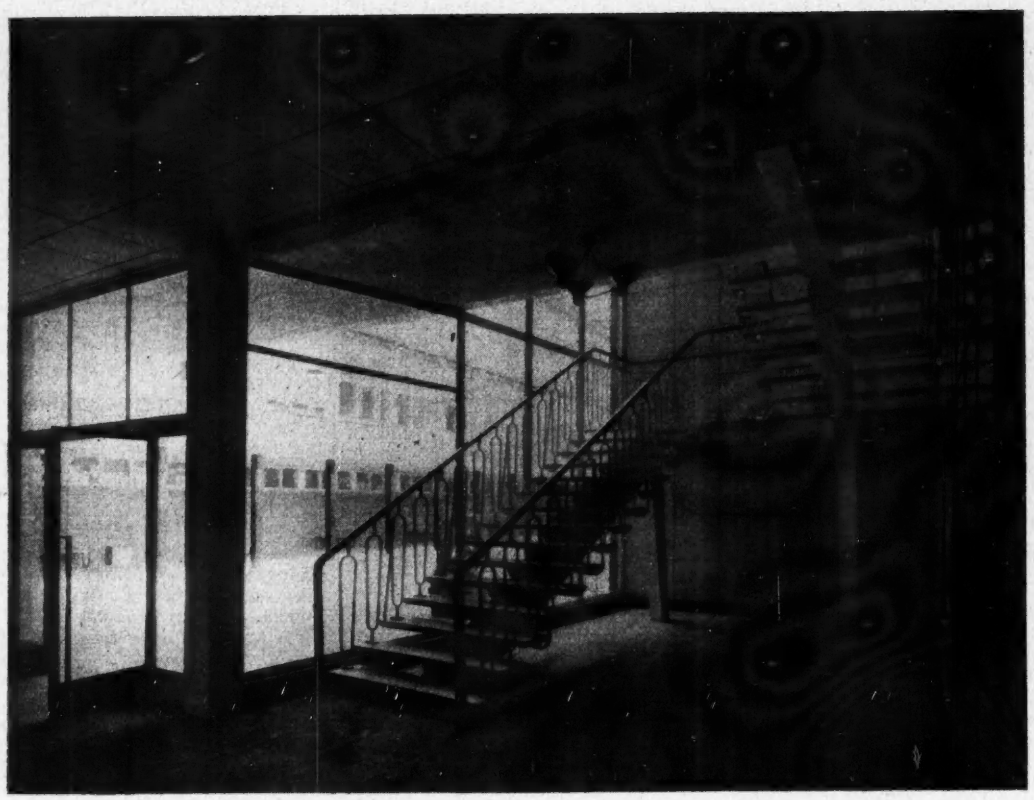


FIG 2

The following contributed their services to the scheme: Structural engineer, Mr. Felix J. Samuely, B.Sc.(Eng.), A.M.I.C.E.; heating consultant, Mr. John Porges, A.M.I. Mech. E.; electrical consultant, Mr. J. Rawlinson, M.I.C.E., M.I. Mun.E., chief engineer, L.C.C.; quantity surveyors, Selby and Sanders; sculptor, Mr. E. Bainbridge Copnall.

The general contractors were Messrs. Gee, Walker and Slater, Ltd., and the foundations were carried out by Messrs. W. J. Simms, Son and Cooke, Ltd. Mr. N. Reed was the general foreman, and Mr. A. J. Cellman the clerk of

The assembly hall looking towards the stage.



[OLD PALACE PRIMARY SCHOOL : *Main entrance and staircase to assembly hall. Below : A typical classroom.*

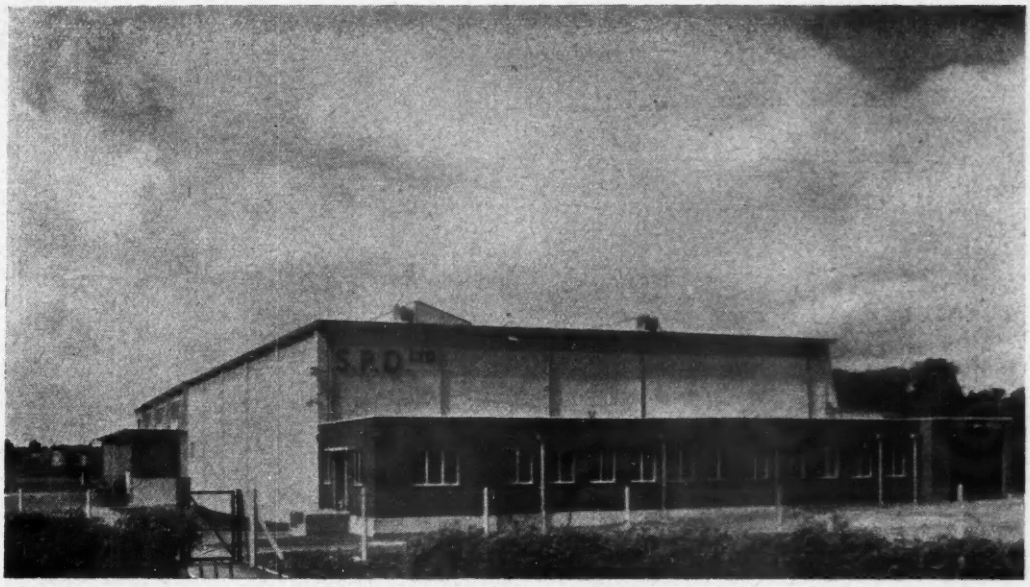
works. A list of sub-contractors is given below :—

Accotile floors and cork wall, Armstrong Cork Co., Ltd. ; acoustic tiles, Douglas Smart and Sons ; artificial stone cills and flower boxes, Glostone, Ltd., Watford ; balustrades and railings, Haskins ; bituminous felt and asphalt roofs, Excel Asphalte Co., Ltd. ; ceilings, Eastwoods Specialists, Ltd. ; cement glaze, Robb's Cement Enamel Finishes, Ltd., Dagenham, Essex ; cloakroom fittings, Cloakroom Equipment, Ltd., Bromsgrove, Worcs. ; copperwork, Builders Iron and Zincwork, Ltd. ; doors, Leaderflush, Ltd., Trowell, Notts. ; electrical work, McGoff and Vickers, Ltd. ; fencing, Penfold Fencing and Engineering, Ltd., Watford.

Fire fighting equipment, Pyrene Co., Ltd., Brentford, Middx. ; gardens, A. Luff and Sons, Ltd., New Malden, Surrey ; gas installation, North Thames Gas Board ; glazing, Faulkner Greene and Co., Ltd. ; heating and ventilating, J. Jeffreys and Co., Ltd. ; Hornton stone floors, London and Sussex Merchants, Ltd. ; ironmongery, G. and S. Allgood ; letters and numbers, The Lettering Centre ; metal roofing, Wm. Briggs and Sons, Ltd. ; metal windows and door frames, Crittall Manufacturing Co., Ltd.

Paints, The Leyland Paint and Varnish Co., Ltd. ; paving stones, Noelite, Ltd., Borough Green, Kent ; plastering and granolithic, J. H. Jenner and Co., Ltd. ; precast concrete facing units and floor slab, The Atlas Stone Co., Ltd. ; prestressed concrete beams, Liverpool Artificial Stone Co., Ltd. ; r.f. steel, T. C. Jones and Co., Ltd. ; roller shutters, John Booth and Sons (Bolton), Ltd. ; roof lights, Luxfer, Ltd. ; roof tiling, L. Whittaker and Co., Ltd. ; sanitary fittings, John Bolding and Sons, Ltd. ; special electric light fittings, Merchant Adventurers, Ltd., and Troughton and Young (Lighting), Ltd. ; stage curtain track, Tidmarsh and Sons ; structural steel, Lindsay's Paddington Ironworks, Ltd.

Tarmac, Home Counties Tarmacadam Contracting Co., Ltd. ; terrazzo, Art Pavements and Decorations, Ltd. ; tiling, Harradine Rouse and Co., Ltd. ; veneered hardboard, C. V. Creffield and Co., Ltd. ; venetian blinds, J. Avery and Co., Ltd. ; wood block and strip floors, Hollis Bros. and Co., Ltd.



General view from the Maidstone Road.

A DISTRIBUTING DEPOT, AYLESFORD ESTATE, MAIDSTONE

LLEWELLYN SMITH & WATERS, MM.BE, FF.RIBA, ARCHITECTS

S. P. D., Limited, the associated company of Unilever, Limited, responsible for warehousing and distributing a wide range of Unilever products, have prepared a nation-wide scheme for the construction of new depots designed for their specialised requirements. The company handles margarine, compound, lard, welfare foods, soap, soapless detergents, toilet preparations, canned foods and other products.

This article describes a new depot constructed for and leased to S. P. D., Ltd., by C. A. S. (Industrial Developments), Ltd., on the Aylesford Estate near Maidstone, to cover the company's distribution for the whole of Kent.

The scheme of distribution is based on depots located at well-chosen centres in relation to density of delivery requirements throughout the United Kingdom. In principle the products are conveyed in bulk from the factories by rail, road and sea to the depots from which radial distribution to retailers and wholesalers is performed by road.

A close study has been made of the latest methods of handling, and a system of "palletisation" (i.e., a method of unit load handling) suitable to the company's requirements has been adopted.

The products are stowed on wooden pallets 48 in. by 40 in. in unit loads of approximately one ton. The pallets are then conveyed to the storage area by the pedestrian-controlled power pallet trucks (battery electric) and stacked by the high lift fork truck (battery electric) four pallet loads high. This method makes the fullest possible use of head-room and effects a saving in floor space.

It is hoped to develop throughout palletised movements direct from factory to depot. Meantime, goods arriving by rail are loaded on to pallets direct from rail wagons and the mechanical equipment is employed for moving and stacking. The individual outwards van loads are conveyed direct from the stacks on pallets to the preassembly area and loaded from the pallets into the delivery vans. Palletisation permits preassembly of merchandise in such a way that the minimum of time is expended in van loading.

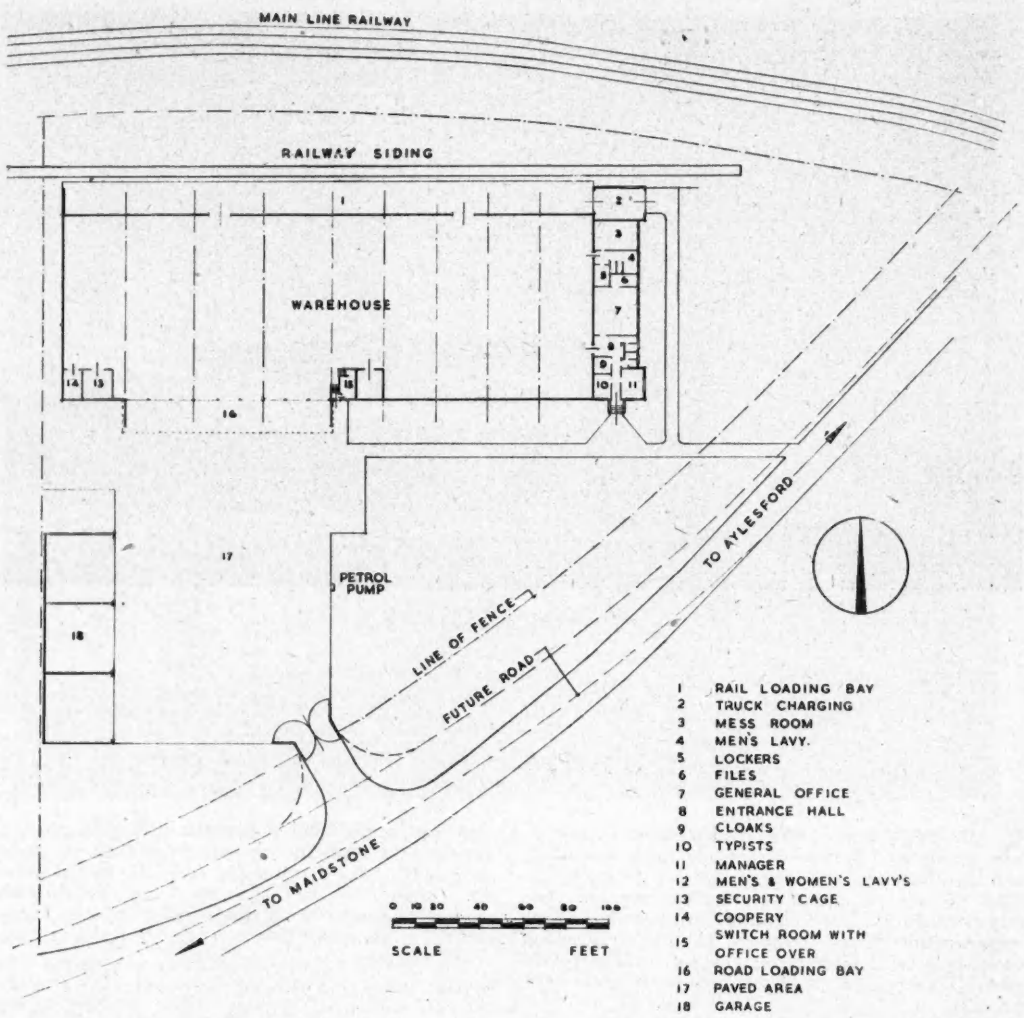
The depot is a self-contained administrative unit having offices for the manager and clerical staff, together with a supervisors' office adjacent to the pre-assembly area. A well-appointed mess-room and cloak rooms are provided for the warehouse and office staff.

Separate lock-up rooms are provided for small toilet traffic and for recoopering packages damaged in transit to the depot. A separate bay is also provided for charging the electrically operated trucks during the night.

The planning requirements of these buildings are controlled by the shape, size, number and weight of the pallets, and by the width of the gangways, which must be wide enough to allow manœuvrability of the handling equipment.

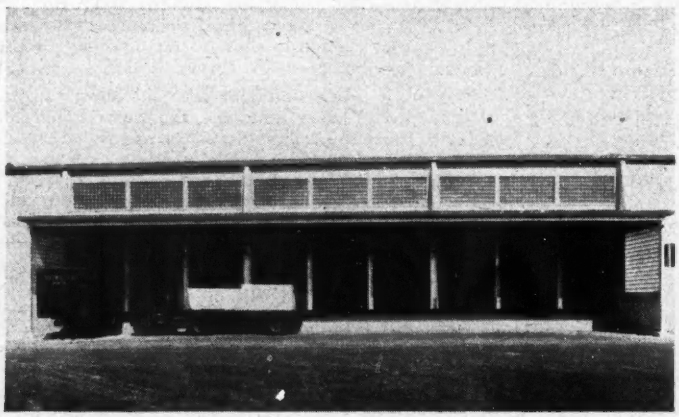
Somewhat rigid conditions are laid down for the construction of these buildings, the more important being: Thermal insulation must be controlled within narrow limits; the floor area must be clear space; the clear height below the roof girders must be 17 ft.; the floor must stand up to the load imposed by metal-wheeled power pallet trucks, and be capable of a load capacity of 7 cwt. per sq. ft.; the floor level must be 3 ft. 8 in. above rail level; clear height below the canopies over van loading areas must be 13 ft.; the area over which vans manœuvre must be such that at no time does incoming traffic obstruct outgoing traffic, or vice versa; and cost must be controlled within the limits prescribed by S. P. D.

The building is steel framed with built-up stan-

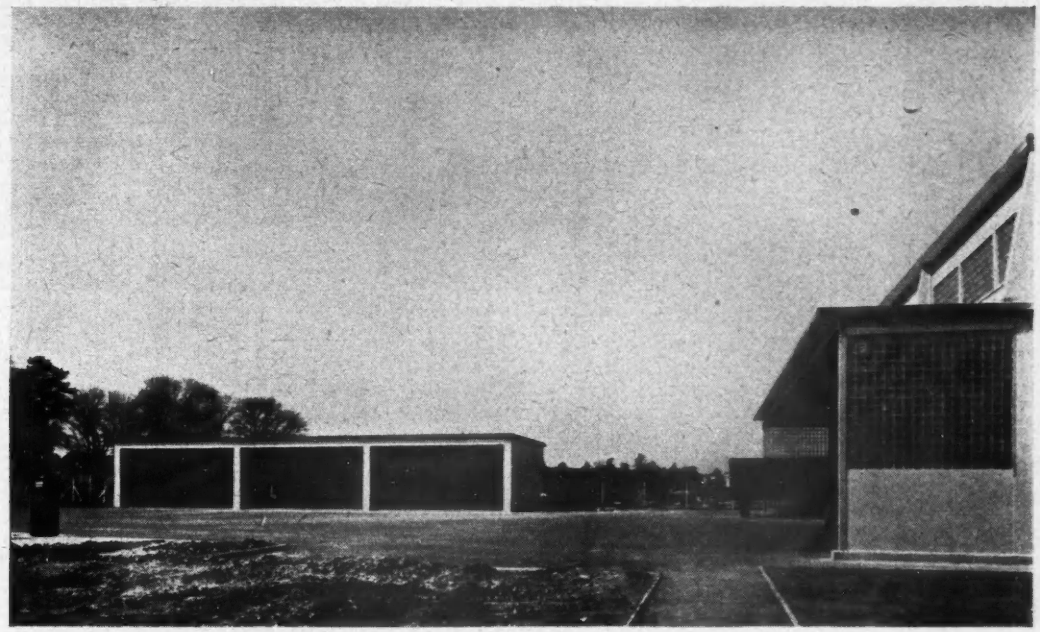


chions contained within the external walls and lattice girders having a clear span of 84 ft. The roof is Ruberoid steel decking with Tentest boarding and felt. The panel walls between the stanchions consist of 9 in. brick work plastered internally with ¾ in. vermiculite plastering. The exterior is rendered, after which it is sprayed with a " Cullamix " finish.

This form of construction gives the required thermal insulation, and is cheaper than a cavity wall in first cost, and additionally it can be erected more quickly. The floor filling is retained by reinforced concrete ground beams which also carry the walling over. The ground beams are supported on mass concrete stanchion bases.



Elevational view of road loading bay.



View of road loading bay (right) and garage.

One of the most important features of the warehouse is the floor, which must withstand the wear which comes with mechanical trucking. The top surface is 1½ in. granolithic laid monolithically with the concrete base.

Good lighting is also essential. Top lights have been placed over the main gangways in such a way that in normal circumstances artificial lighting is not necessary. These top lights have double glazing, the upper layer being " Calorex " glass and the lower wired cast glass.

The use of hollow glass bricks over the preassembly area assures plenty of natural daylight there under normal conditions. An efficient artificial lighting system is provided consisting of tungsten lamps over the stacking areas and fluorescent lighting over the main gangways. Light sources are placed so as virtually to eliminate shadow.

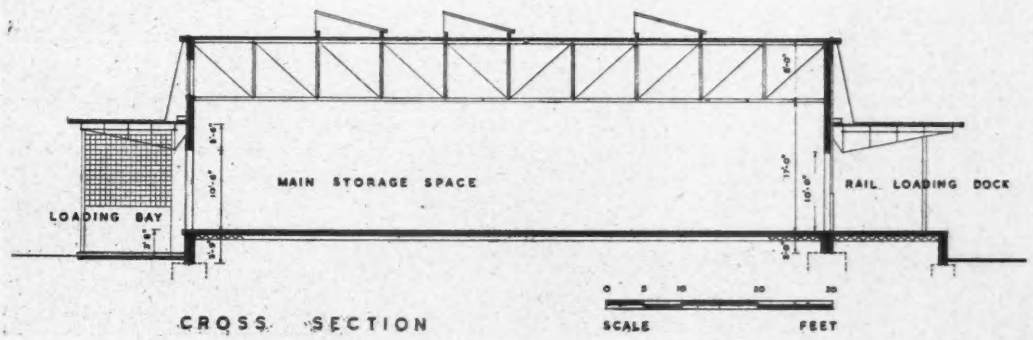
The main doors are of the Aberdeen type which slide up outwards under the canopies.

Both loading bays are protected by overhanging canopies covered with Ruberoid steel decking, the structural members being cantilevered out from the main stanchions from which they are supported by raking steel hangers encased in concrete.

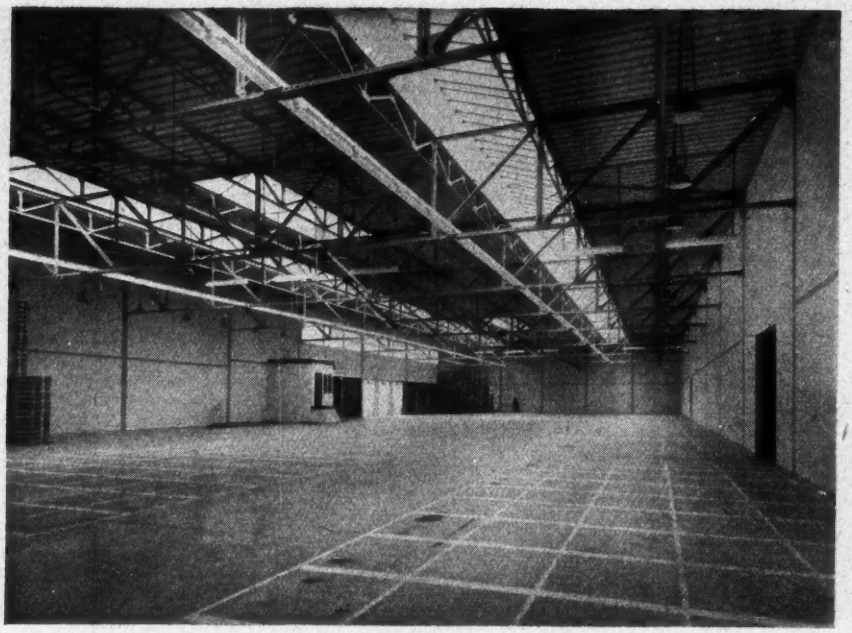
The van loading bays are protected by wind-breaker walls, with glass bricks from a height of about 7 ft. upwards. A detached garage block has been provided, having load-bearing walls which are rendered externally, the roof consisting of Ruberoid steel decking. Nine large vans are accommodated and the garage block is so planned that any van can enter any garage from the depot entrance on one lock, and conversely any van can reverse straight on to any loading bay on one lock. Facilities for washing vehicles are located at the north end of the garage, and a petrol pump is also provided.

The tarmac area is laid to falls which will avoid any serious accumulation of water and permit the free movement of vehicles to and from the garage, warehouse and wash without interference with any of the other traffic.

The office block is located to the east side of the warehouse and is slightly lower in height; it is



CROSS SECTION



General view in warehouse.

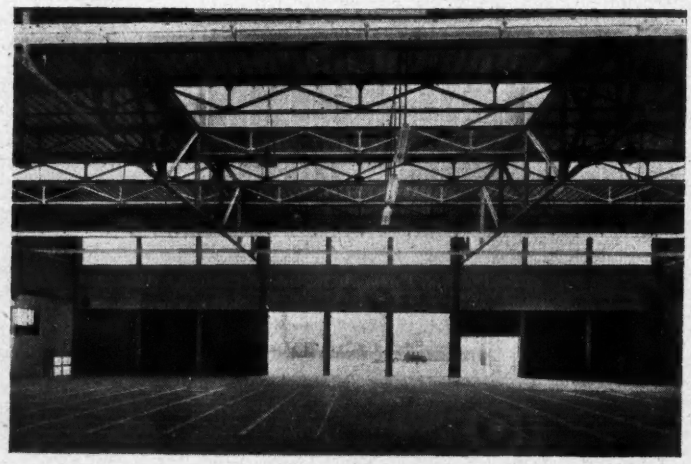
emphasised by a darker-coloured rendering, and construction generally is similar.

Excellent rail access provides for two deliveries and two clearances per day and road egress permits access to main "A" roads in less than half a mile in each direction.

The building, which is now in full operational use, was erected for S. P. D., Ltd., by C. A. S. (Industrial Developments), Ltd., the main contractors being the latter's associated company, C. A. S. (Contractors), Ltd. The quantity surveyors were Messrs. Watkins and Decker and the consulting engineers, Messrs. Andrews, Kent and Stone.

Sub-contractors and suppliers were: Tarmac, General Asphalte Co., Ltd.; sanitary fittings, John Bolding and Sons, Ltd.; floors (warehouse), Stuarts Granolithic Co., Ltd.; wood block floors (offices), Viger Bros., Ltd.; metal windows, Mellowes and Co., Ltd.; doors, F. Hills and Sons, Ltd.; ironmongery and fencing, A. J. Binns, Ltd.; glass bricks, Faulkner Greene and Co., Ltd.; railway, Railway Executive (S.R.); paint, Screeton Paint-makers, Ltd.; bricks, Hall and Co., Ltd.; extract fans, Sturtevant Engineering Co., Ltd.; wrought-iron, Carron Company; artificial stone, Architectural Displays, Ltd.; petrol pump, Beck and Co. (Meters), Ltd.; lamp standards, Revo Electric Co., Ltd.; bicycle racks, Constructors, Ltd.; overhead door gear, P. C. Henderson, Ltd.; steel decking and finish, The Ruberoid Co., Ltd.; roof glazing, Mellowes and Co., Ltd.; r. w. goods, Burn Bros. (London), Ltd.; Cullamix (supply and application), Guntex, Ltd.; vermiculite plastering, E. E. Cheeseman and Sons, Ltd.; vermiculite, Vermiculite (London), Ltd.; electrical installation and truck charging equipment, Thompson Ritchie and Co., Ltd.; structural steel, James Bros. (Hamworthy), Ltd.; overhead doors, Overhead Doors, Ltd.; dome lights, T. and W. Ide, Ltd.; signs, Chase Products, Ltd.; ventilators, Colt Ventilation, Ltd.

A DISTRIBUTING DEPOT, AYLESFORD ESTATE, MAIDSTONE



Another view in the warehouse, showing the exit to road loading bay.

RESEARCH AND THE INDUSTRY

2.—*Ways and Means*

By our Special Correspondent

A RESEARCH and development association, as sketched in these columns a few weeks ago [*The Builder*, June 6], would add greatly to the efficiency of the building industry. It seems unlikely that any fair minded person would gainsay this.

In all this discussion, it must be remembered that research and development are not just things it would be nice to have: they are today essential to the building industry. We cannot afford to be 20 years behind the rest of the world in the origination of ideas. Time was when we could allow others to invent and to develop. It was enough for us to purchase promising inventions for exploitation. In our present state we have no money for this course of action: if it is vital that the British building industry should have new ideas to export, we ourselves must furnish them. Yet one is very conscious that, before a development organisation can be established, some practical difficulties will have to be overcome. These are mainly in the sphere of control and finance.

Since the organisation would serve the whole industry, its governing body must be representative of all of the sectional interests in building. It must be sponsored by the industry as a whole, else its work would be suspect by those sections which did not share in its control. Its every activity would be scrutinised by unfriendly eyes, and dark motives and sinister purposes ascribed to its most innocent activities. What is worse, these suspicions could be justified: a body of this sort could be debased to the level of a propaganda machine to further the interests of the section that controlled it. This is why government by the industry as a whole is necessary: it is the only practical safeguard against abuse.

WIDE REPRESENTATION

But what comprises the industry? Everyone would agree that the professional institutions, the employers' federations, and the operatives' unions are representative portions of it. By the same token, the supervisors' organisations—bodies representing foremen, clerks of works, and drawing office staff—should be included. Teachers of building subjects—from university to evening class—have an obvious claim to representation on a body whose work would be, in part, of an educational character.

As a development body, it could not but welcome representatives from the existing development associations, and from the Department of Scientific and Industrial Research. Since one of its main functions will be to publicise the results of research, the technical Press must be fully represented. A governing body of this type need not number more than a dozen members, if the larger organisations had single representatives, and there were single "bulk" representatives for groups of smaller organisations within the same field of activity.

An alternative would be to have a much larger committee, meeting quarterly or half-yearly, with an executive committee, elected from it to meet monthly. Even so, a governing body on these lines would not be fully representative of the industry. There are very many builders and operatives, and a number of professional men, who are not attached to any association: in some sections of the industry, indeed, membership of an association is the exception rather than the rule. Some provision must be made for the co-operation of the unattached minority (or is it majority ?) of the industry. Perhaps individual membership with the right to vote for one or more representatives (according to the number of the unattached) would be a just solution. Moreover, new organisations arise, and provision must be made for their representation if they are large enough.

It seems, then, that a large and growing governing body would be necessary to prevent the association from becoming a cockpit for battles between various sections of the industry, or its degradation to the level of a propaganda machine, or an instrument in a membership drive, or a weapon wielded by established bodies for the elimination of their rivals, or even a closed society preaching to the converted few, and rapidly ossifying.

A FURTHER SAFEGUARD

These are very real dangers: indeed, so real that a further safeguard may be thought to be necessary, in the shape of an impartial element in the government and administration of the association. Such an element could only be furnished by a Government Department. Whether the Government could be expected to co-operate to this extent is open to doubt. Moreover, such co-operation might be construed by some as a perpetuation of Government interference in the affairs of the building industry. Viewed objectively, however, there is much to commend it, for the first few years at least of the association's existence, until a method of administration had been established, and the body's activities were well under way.

While for a basic programme of technical information a very large annual sum would not be needed, the financing of a development association would need careful consideration. The most obvious method would be through subscriptions from the trade and professional organisations, including the trades unions represented on the governing body. To paraphrase the old adage, he who calls the tune should pay the piper, and representation on the board should be conditional on substantial support.

But there should be some exceptions; for instance, the D.S.I.R. could only be expected to make payment in kind, and the teachers of building could only make token payment. Representation according to the size of contribution might be an inducement to large contributions, but would circumvent the safeguards previously discussed. One representative, no matter the size of the contribution, seems essential. This would not be unjust, because larger contributors would make greater demands on the services of the association, and in this way, not by voting, would get their money's worth. The bulk of subscriptions would probably come from building trades organisations, supplemented by the professional bodies and by individuals, whether engaged in building or the manufacture of building materials, who desire a technical information service.

THE PRIME PURPOSE

In all this we must not lose sight of the purpose of the association—which is to make known the meaning of scientific discoveries, and show how they may be applied to practical building work, in order that time and material may be used to the best advantage. Naturally, the information it would provide would be mainly for the use of builders and craftsmen, rather than for architects and other professional men. This is because the publications of the Building Research Station on matters of design are often suitable for use by professional men more or less as they stand, while those on practical building subjects usually need a great deal of development work or practical trial before they can be recommended for use on the site. Nevertheless, engineers and architects could not afford to disregard them, because it is not possible to design economically or efficiently without knowing something of the materials and methods used to give these designs actuality.

But all this is, as the philosophers say, in potency, not in act: it could be, but has no real existence—except for the Technical Information Service of the Ministry of Works. Pending the convening of a committee of the industry—the first step towards actuality—there is the example of the L.M.B.A., which is one that all in building, whether societies, firms or individuals, could perhaps well follow. This would appear to be one method of continuing a benevolent Governmental interest in the spreading of results of research to the building industry, until such time as the industry itself is able to take full control.

RENDERING OUTSIDE WALLS

An M.o.W. Advisory Leaflet

"RENDERING OUTSIDE WALLS," No. 27 in the Ministry of Works series of Advisory Leaflets, now published by H. M. Stationery Office, gives guidance on precautions to be taken in choosing a rendering, on the mix to use and the method of application in order to avoid failure by cracking or separation from the background. The Leaflet gives practical hints on the suitability of various renderings for different purposes: pebble-dash, roughcast, smooth-floated finish, textured and scraped finishes, and machine-applied renderings.

Copies of Leaflet No. 27 and of previous issues in the series are obtainable from H.M. Stationery Office (postal orders to P.O. Box No. 569, London, S.E.1).

HOME INSULATION

Greater Comfort from Less Fuel

SPEAKING at a recent conference on the subject of "Home Insulation," organised by the Women's Advisory Council on Solid Fuel, MR. R. R. HOUSTON, in a paper entitled "Methods and Materials for House Insulation," drew attention to the enormous savings in heat which could be effected by merely insulating the roof space alone and emphasised that, on an average, this saving could be as much as 33⅓ per cent. As Mr. Houston pointed out, anybody can save fuel and freeze, but with adequate insulation a considerable saving is effected and comfort conditions improved. Over and above this, if the coal is not taken up for house heating it will be available for factories or for export.

Heat escapes through walls, floors, ceilings, windows and doors on uninsulated dwellings, he said. Obviously the ideal would be to insulate the walls, floors and roofs, but this is not a practicable proposition in existing houses, and in any case would be very expensive. On the other hand, of all the heat that escapes through the fabric of an uninsulated semi-detached, terraced or detached dwelling, in which the ceiling area is equal to one half of the total floor area (ground plus first floor), as much as one quarter occurs through the ceiling and roof construction. In a top flat in which the ceiling area is equal to the entire floor area the proportion is as high as one half. Therefore, the practical and economic thing to do is to insulate the roof. If a single layer of insulation is used either over or between the joists the heat lost through the ceiling is reduced by two-thirds of that which would occur in an uninsulated ceiling.

Ignorance of Advantages

After quoting some examples of savings effected, Mr. Houston went on to say that if all the existing houses in Britain could have some form of insulation the economy in fuel would be tremendous. He said he had carried out investigations to find out why all dwellings cannot be insulated, and in the case of houses already erected it is usually because landlords and/or tenants are not willing to face the expenditure of insulation as they are unaware of its advantages. In the case of new houses it is usually a question of cost; not the cost of the insulation itself, which is very reasonable (from £5 to £15 per house, depending on the size and type of insulation and/or method used), but the addition of this cost to the price of the house, which is limited. It is found that if any pruning has to be done one of the things which is cut out of the specification is insulation. Architects usually are in favour of insulation but local authorities and housing committees have to cut it out to keep within a maximum figure allowed for house-building. Where insulation is used it may mean about 1½d. per week increase in rent on a council house, and tenants tend to resent paying any extra rent not realising that they themselves will save much more and at the same time have added comfort.

After itemising the various methods which exist, Mr. Houston stressed the fact that they were all very easy to apply, particularly slag wool and glass wool insulation.

Mr. Houston was followed by MR. J. PINCKHEARD, who spoke on "The Architect and Insulation." He said: "Insulation is not a luxury and it is not an 'unessential'; it is a national necessity. The fact that the house building authority does not itself directly reap the benefits resulting from it should not be allowed to stand in the way of its general adoption as standard house building practice. Ways must be found to overcome this difficulty. I have suggested that a minimum standard for domestic insulation should be a statutory requirement. Building bye-laws are the obvious instrument but something much better than the new draft Model Bye-laws is needed.

"Also, and here I come back to the beginning, people must be made to want insulation. When enough people demand thermal insulation, private builders and local authorities will provide it."

PLANNING AND GOVERNMENT

Formation of National Advisory Body Suggested

SPEAKING to the Town Planning Institute on "Town Planning as a Form of Government," at Caxton Hall, on June 26, PROFESSOR W. A. ROBSON, of the London School of Economics, suggested that there should be a national advisory body to advise the Government on town and country planning matters, and an administrative tribunal to hear appeals.

Professor Robson began with a survey of the progress made in town and country planning, legislatively and in applying its fundamental principles in this country since the first Act of 1909 down to the present day. But despite the great advances made, he said, many of the problems of planning, from the governmental standpoint, were not yet solved, and were not even widely appreciated. These problems were administrative, political and psychological.

There were two ways in which the work of the central department could be improved in regard to planning. One was that a National Advisory Council on Town and Country Planning should be established to advise the Minister.

Another change which he would advocate would be the establishment of an administrative tribunal to hear appeals from decisions of local planning authorities. The Minister, whoever he might be for the time being, had a whole series of judicial functions. He had to hear appeals from local planning authorities and disgruntled applicants for planning permission, and in various other ways he had to exercise considerable judicial powers. There was nothing about that peculiar to the field of planning. In a book he had written on this subject it would be seen that something like 100 administrative tribunals had been established in connection with the social services or public services by the central Government Departments. But the best practice in this field was not for the judicial powers of Government Departments to be left to be exercised hotch-potch by nobody knew who—which was what happened at present—but to set up some kind of administrative tribunal, manned by three persons, one of whom would have legal qualifications and the others some form of scientific or professional equipment relative to the particular field, and for that tribunal to be given directions by means of regulations of an open kind.

The greatest defect in the administrative system of planning, continued Professor Robson, was the absence of any democratic machinery at the regional level. Instead, we had only bureaucratic machinery. As he saw it the most important objective of planning administration was to distinguish correctly between the functions of planning which had to be carried out at the local, regional and national levels and to provide the proper authorities to undertake these separate tasks.

Coming to what he called the politics of town and country planning, Professor Robson said: "We cannot assume that if laws are passed, if principles are laid down, powers conferred upon Ministers and local planning authorities, planning consultants and other experts appointed, outline plans drawn up and submitted to the Minister and all the rest of it, that in consequence planning development will automatically take place. Unless there is political force behind it the whole movement will fail for sheer lack of steam."

Closely related to the problem of making planning politically important was the question of how to mobilise public opinion behind planning. This was part of a larger problem, how to make planning processes themselves sufficiently democratic, sufficiently participated in by the ordinary citizens so that they would come to care seriously about town and country planning because they felt they were active partners in its aims and purposes. To translate the objects of the planner into sufficiently simple terms, to enable the ordinary voter to understand what you were driving at, called for political talent of a very high order.

Planning to-day, said Professor Robson, was very much at what one might call the Third Programme stage of evolution. It probably appealed to about a quarter of a million people out of 40 millions or so in this country but, somehow, it must be made into the Home Service or Light Programme before it could become politically important.

Discussion

Proposing a vote of thanks to Professor Robson, MR. W. L. PLATTS, a legal member, said boundary adjustments should not be made until the distribution of functions between the different authorities had been determined. The feeling that many people in rural districts had that they could make representations through a parish council were rooted in sound instincts and should not be scoffed at.

MR. E. G. S. ELLIOT, seconding, thought the interest being taken in the New Towns was evidence that the public was more interested in town planning than Professor Robson had suggested, but, in reply, PROFESSOR ROBSON, himself, pointed out that the New Towns were show places and he was delighted that they were there, but all was not well with them, for factories were not getting built there and if we were not careful they would become merely dormitory towns. In reply to another speaker he said he had always thought that the proper distribution of industry was the key to town and country planning.

The Annual Meeting

Professor Robson's address followed immediately on the annual general meeting of the institute, over which the retiring president, Mr. E. H. Ford, presided. He presented to Mr. G. F. Chadwick the 1951 Thomas Adams prize for his essay on "Landscape: Urban or Suburban?"; to Mr. R. T. Arguile the George and Amy Pepler prize for the best paper on town planning in Part 2 of the 1952 final examination; and announced that the prize for the best set of papers awarded by the Town Planning Joint Examination Board had been won by Mr. S. W. Midwinter, who was abroad and unable to receive the prize in person.

INQUIRY BUREAU

Smoky Chimney

Q.—I have recently moved into a house the chimney stack of which is in close proximity to the roof of an adjacent mill. The living room chimney is causing considerable inconvenience from back draught filling the room with smoke when the wind is gusty and in a certain direction.

Along the back of the house is an enclosure encircled by a wall about 11 ft. high and 2 ft. 6 in. from the back wall of the house. Neighbours have had chimney spinners, etc., fitted, but state that they have not been successful.

Can you suggest how this trouble might be remedied? J. MORTON.

A.—The cause of the smoky chimney is undoubtedly due to the action of the wind. When the wind strikes the roof of the mill it spreads out in all directions and passes over the top of the chimney pots, sealing the top in a temporary manner thus causing smoke in the room. It may also be caused through the flue being too straight and the position of the door in relation to the fireplace, particularly if it opens on to a narrow passage.

The remedy seems to lie in raising the brickwork of the chimney stack to a height slightly above the ridge of the roof of the mill. If adding the extra weight of brickwork on to the present stack is not desirable, a purpose-made metal flue could be used provided with proper stays to give support against wind pressure, or, as an alternative, a special cowl which carries a guarantee of efficiency could be used.

G. W. H.

Efflorescence Underground

Q.—Some few months ago we constructed a building with an underground canteen, which was tanked with asphalt; the concrete floor was covered with granolithic and walls were painted with oil paint. It is now showing a certain amount of efflorescence on the floor at the edges of walls and a little way up the walls. Can you account for this?

A. J. C.

A.—With reference to the underground canteen, if the asphalt used as tanking on the floor and walls was not loaded with at least four inches of fine concrete, but only screeded and finished in plaster, it is quite possible that seepage is taking place and this is the cause of the efflorescence. On the other hand the efflorescence may be caused through bad ventilation. In underground rooms it is possible for humidity to collect and form into condensation. This naturally falls to the floor and is sucked up in the plaster and ultimately causes efflorescence. The concrete floor covered with granolithic is non-absorbent and any dampness on this which may be caused through washing daily would naturally be absorbed by the plasterwork of the walls.

G. W. H.

Shed and Garage Bases

Q.—I have recently received some conflicting advice on quite an ordinary matter and should be glad to have your opinion on my simple problem, which is as follows:

I wish to lay down two concrete bases (1) about 11 ft. by 7 ft. for a garden shed, and (2) about 21 ft. by 10 ft. for a substantial asbestos/timber-framed portable garage. In each case I propose to level the site, lay about 4 in. rubble/hardcore, and then cover with 4 in. concrete. Now I have been recommended to use ballast and cement for the latter, but it is the proportions over which opinions seem to vary widely. Some say eight buckets of ballast to one of cement (dry), others 6:1, whilst the builders' merchants say that I should use a 4:1 mix.

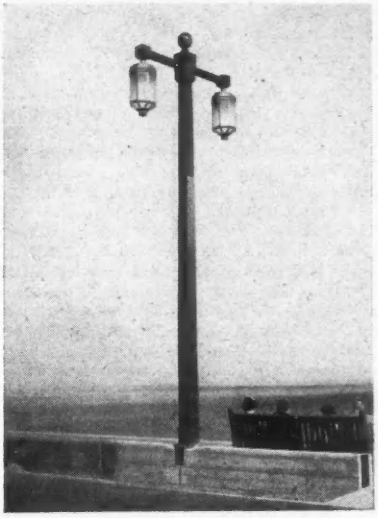
I wish to make a good, lasting job (without gilding the lily) and would greatly appreciate any advice that you could give both on this question of proportions and also any other aspects of the job.—J. W., Sidcup.

A.—No. 1 garden shed, base 11 ft. by 7 ft. Excavate about 10 in., deeper if not on a solid soil, drive in peg tops which give formation levels for the hardcore base and the concrete floor finish. Provide clean broken brick not more than 2 in. gauge, fill up to 4 or 5 in., thoroughly ram or roll and fill the voids with fine clinker and well roll and consolidate. Fix 4 in. by 1½ in. wooden battens to the pegs referred to. These act as screeds to level off the concrete and to keep the concrete from spreading. Provide a 4:2:1 mix, *i.e.*, four parts of ¾-in. crushed shingle to two parts of washed coarse sand and one part of cement. Use the concrete in a plastic state, not sloppy, and if in doubt about rising dampness use a waterproofer. If there is a chance of cracking use a fabric reinforcement. Pour the concrete and use screed rules and trowel with a steel trowel before final set.

No. 2, base for garage 21 ft. by 10 ft. Excavate at least 12 in. deep, making sure the soil is of a solid nature; drive in pegs at 5 ft. centres; these pegs should be 1 ft. 6 in. long by 2 in. by 2 in. The top of the pegs gives the formation and finished levels for hardcore and concrete. After the hardcore is placed, as for garden shed, fix to the pegs referred to 6 in. by 1½ in. wooden battens. These act as screeds to level the concrete and keep it from spreading. Provide a 4:2:1 mix as before, but 6 in. thick. Provide a fabric reinforcement about 1 in. up in the base of concrete and waterproof for extra wear and tear. Finish on top of the newly laid concrete before initial set. Lay 1 in. of granolithic, two parts crushed granite and one part cement; trowel to a smooth face. After a week, in both cases, the screed bonds can be removed and the pegs drawn up.

G. W. H.

(The names and addresses of manufacturers of the fabric reinforcement and waterproofer referred to have been sent to the inquirer.)



TIMBER LAMP STANDARDS

AN EXAMPLE of the modern use of timber, combining utility with a pleasing decorative effect, is evidenced by the adoption by the Sidmouth U.D.C. of a hardwood timber, Iroko, for lamp standards on their esplanade.

The standards, which were designed by their surveyor in collaboration with the Timber Development Association, are 21 ft. high, tapering from 9 in. by 9 in. at the base to 6 in. by 6 in. at the top. Manufacture presented some problems which were overcome by the use of many ingenious jigs, and the final treatment was the application of a synthetic resin finish.

The standards have recently been erected, and leading electrical firms are reported to be showing much interest in the future possibilities of timber for this purpose, and in the development of further attractive and varied designs. Maintenance costs are expected to be low.

BUILDING IN LIVERPOOL

Delays Due to Materials Shortage

FOR the continued hold-up on many building operations in Liverpool and on Merseyside, MR. J. DUFFY, president of the Liverpool Regional Federation of Building Trades Employers, blamed shortages of essential materials which included a rapid deterioration in cement supplies when speaking in Liverpool recently.

It was ludicrous, he said, that builders should have to stand men off during the best building weather while the Government continued to export cement in greater quantities than ever.

It would be difficult to keep jobs fully supplied unless the Government's decision to stop imports was matched by a similar reduction in the quantities exported. The shortage of steel also created great difficulties and the allocation scheme was not altogether satisfactory, but with the growing rearmament programme there would be no improvement for some time.

On the question of timber supplies he thought restrictions concerning the imports of softwoods should be reviewed. Freedom in the use of timber would offset the acute shortage of steel and reduce building costs.

He regretted that unofficial stoppages had intruded on fairly good labour relations and he referred to the type of dispute that often resulted in stoppages, or threatened stoppages, which arose between various trade unions when two or more unions claimed particular work for their respective members. The employer was not a party to the dispute but the work was held up just the same. Referring to house building, Mr. Duffy said members had hoped they would have been able to play a far greater part in the housing programme but in at least one local authority's area there would, in practice, be fewer licences issued for private building than under the previous Government.

MR. J. IAN ROBERTSON, president of the National Federation of Building Trades Employers, said an extra 6d. an hour increase for building trade operatives would add over £60 to the price of a three-bedroomed house and would increase the annual cost of building by 50 to 60 million pounds. "Building work is expensive enough as it is and the additional cost might well be the last straw," he said.

TIMBER PRESERVATION

"Enormous" Losses of Tropical Hardwoods Before Conversion

TWELVE papers on different aspects of wood preservation were given at the annual convention of the British Wood Preserving Association's Convention (briefly reported in our issue of June 27) held at Cambridge from June 23-25. The enormous wastage of hardwoods from tropical forests before they could be marketed, brought about by insect and fungus attack, was drawn attention to by Mr. T. J. PRICE (Technical Representative, Flatau, Dick and Co.) in a paper entitled "Where Should Timber Preservation Begin?" in which he suggested steps which might be taken to combat this loss, to the benefit of the consumer in this country as well as to the producer.

Mr. Price said that the softwood industries of the world were, in general, organised to eliminate the biggest proportion of avoidable waste, due partly to centuries of experience, partly to the fact that conifers were gregarious, which allowed of methods of exploitation approximating to mass production, and largely to the fact that they grew in temperate zones with a close season for timber pests. Preservation techniques for the sawn material had also been fairly thoroughly worked out.

"With hardwoods the case is very different," he declared. "The wastage of good timber is enormous. Actual figures are impossible to obtain, but to anyone familiar with timber production in the tropics, whence we must obtain the bulk of our supplies, it is obvious that the overall picture is appalling.

"I am as aware as anybody that the ideal method of prevention is to fell, convert and season immediately. This method of prevention is very rarely possible in practice, even in the best conditions, and utterly impossible in the primitive conditions prevailing in most tropical production areas. If any large proportion of the wastage is to be avoided, the preservative industry alone can supply the answer."

Utility Hardwoods

The most sought after hardwoods from the tropics to-day were the light, soft varieties for use as general utility woods, which were almost invariably the most vulnerable. Up to now, even the most conscientious shippers could not guarantee to deliver them to this country in perfect condition. Solid logs presented more difficulty than lumber. Lumber which had been converted in the country of origin did not always fare much better, largely as a result of damage to the logs before conversion. In some instances the damaged wood could be trimmed off in conversion, but when the penetration of either worm damage or fungus was too great, this could not be done without reducing the yield from the log below the economic level. There was no known instance of fungus-rotted timber being permitted under any recognised grading rules, but in many instances the rules had been drawn up to permit a certain amount of worm damage even in so-called prime grades.

This was noticeably the case in Malaya and other producing areas possessing a similar climate. Central American mahogany was marketed in separate wormy grades for the damaged material. Not only was this tantamount to an admission that the battle against wood worm was lost, it was also a serious handicap to the sale of the timber. Some very desirable timbers had already been almost excluded from the British market because they were so susceptible to attack, and after listing some of these Mr. Price continued:—

"I have myself been very interested in attempts to market Ilomba (*Pycnanthus kombo*), a very useful utility wood. So far, although attempts have been made to use preservatives, the results have been disappointing. In this case the chief trouble has been fungal damage. Even after the logs have been sprayed and the lumber dipped before shipments, pockets of rot have been found in the timber when opened after arrival in this country, and in some cases the fungus has been visible on the surface. The same thing occurs in Chilian Laurel (*Laurelia aromatica*), Olivillo (*Aextoxycon punctatum*) and Coigue (*Nothofagus dombeyi*) from South America, which are shipped as 'dipped,' although I have no knowledge of what they have been dipped in.

Protection at Time of Felling

"A statement of what is required is simple, the solving of the problem extraordinarily difficult. What is required is immediate protection for logs at the time of felling. I am almost convinced that very few of the troubles are inherent in the tree itself. I am equally convinced that the damage, particularly from pin hole borers, can start within the first few hours after felling.

"It is extremely difficult under tropical forest conditions to ensure complete and rapid coverage of a log with any solution. With selective felling, where the trees felled are far apart, transport of the material is the first problem. Highly efficient organisation is required to ensure that the preservative and any apparatus for application arrive on the scene at the moment of felling.

"The next problem is debarking. With some species this is not easy and takes a long time—time which is probably a very dangerous period. The application of a preservative to a log before debarking is not in many cases likely to be very effective. It is possible that two applications may be found necessary: one immediately on felling, over the bark, and one after debarking.

"No appreciable penetration is, of course, obtainable by any washing over method, neither is it required. It is not a question of preserving the timber, but of preserving the log until it can be converted into timber.

"The tropical sun is a more serious menace than the rain. It is probable that most failures with logs which have been given a coating of preservative are due to cracks and shakes appearing in the log as a result of exposure to heat, thus presenting large unprotected surfaces ready for infection. Is it a practical proposition to incorporate some hygroscopic material in the solvent which could help to fix the preservative and at the same time minimise the amount of cracking due to surface evaporation?"

Mr. Price concluded his remarks by saying that the members of the Association had long ago declared war on the enemies of timber in use; he would very much like to see a new declaration of war against the enemies of timber in production.

Fire-Retardant Treatments

IN A PAPER on "The Value of Fire-Retardant Treatments," MR. S. H. CLARKE, M.Sc., Director, Fire Research Station, D.S.I.R., said that the tests which had been carried out which indicated that fire-retardant treatments had a great influence on the behaviour of timber in fires were those which simulated the conditions of the small or incipient fire; full-scale fire-resistance tests, which simulated the conditions in a fire of average intensity, indicated an influence that was positive but not of an order that improved the performance of wood significantly in relation to that of the major constructional materials such as masonry or concrete. It followed that, where suitably applied, treatment might be expected to prevent an outbreak of fire, to delay development in the early stages, and to lessen the hazard to means of escape; but once a fire was fully developed in the contents of a compartment, treated structural timber would not be expected to show a great difference in behaviour from that of untreated structural woodwork.

"Fire-retardant treatments would, therefore," he said, "appear to be appropriate to fabrics or light timbers or to woodwork where even a slight improvement in resistance to fire might be critical, for instance in ships or the upper storeys of high buildings; but to be an unnecessary expense with timber of large dimensions, even were complete impregnation feasible. Examples of desirable applications that come readily to the mind are timber of the dimensions used in large temporary buildings such as exhibitions, where it is of first importance to ensure the safety of the public."

Indoor Preservatives

IN A PAPER on "The Preservation of Timber for Light Building Construction," MR. D. R. CARR, B.Sc. (Wood Preservation Officer, New Zealand Forest Service), said:

"The present state of knowledge of timber preservation the world over is based almost entirely on experience gained with preservatives used 'outdoors.' It is, therefore, natural that in extending the use of preservatives to timber used for house construction, there has been a tendency to translate and apply, almost directly, to timber used 'indoors,' the experience and knowledge gained from 'outdoor' timbers. As the exposure conditions in the two cases differ vastly, there has been a further tendency to condemn out of hand for light building construction those preservatives and processes which have been found unsuitable for 'outdoor' use. More often than not, the performance of a preservative under 'outdoor' conditions is unjustifiably taken as a measure of its suitability or otherwise for house construction. The approach to the preservative treatment of building timbers must be directed along independent lines.

"As leaching is not a factor associated with preservatives used in building construction, uni-salt preservatives should not be omitted from consideration for the treatment of building timbers.

"Very low retentions of preservatives have been accepted as satisfactory immunisation against *Lyctus* attack, and evidence is rapidly being accumulated that these low retentions are likely to be equally effective against insects commonly found attacking interior woodwork in New Zealand. The conventional methods of treating timber by pressure-impregnation will no doubt continue to occupy an important position in the field of timber utilisation in New Zealand. Nevertheless, the potential economy of diffusion-impregnation and low retentions of toxic chemicals for the preservative treatment of timber used in light building construction in New Zealand is such that further development and extended applications of this process must be anticipated."

IN PARLIAMENT

New Town Corporations

ON July 29, MR. A. EVANS asked the Minister of Housing and Local Government if he would arrange for the next Reports of the New Towns Corporations to contain figures showing for each new town, the number of adults rehoused to date; the number of adults rehoused who worked in the designated area, and out of the designated area, respectively; and the number of new places in industry.

MR. MARPLES, Parliamentary Secretary to the Ministry, said he would not. The Minister thought Reports gave sufficient general information under the appropriate heads about the progress that was being made.

Liverpool Housing Delays

On July 29 MR. KENNETH THOMPSON asked the Minister of Housing and Local Government if his attention had been drawn to the delay in completing housing projects in Liverpool as a result of a shortage of cement which had resulted in building operatives being stood off; and if he would take immediate steps to remedy this position.

MR. MARPLES, who replied, said that no representations had been made to the Minister by the Council. He understood that, while there had been some difficulties in the area, housebuilding had not been delayed. The Minister of Works had asked the cement makers to increase deliveries to the area.

Requisitioning Working Party

On July 29 SIR JOHN CROWDER asked the Minister of Housing and Local Government what progress had been made by the Working Party which was considering proposals for ending the requisitioning of premises for housing purposes; and when their report was expected.

Replying, MR. MARPLES said that the Minister understood that the Working Party were considering the submission of interim recommendations in a few weeks' time.

Selling of Council Houses

SIR IAN FRASER, on July 29, asked the Minister of Housing and Local Government when he expected to issue the circular containing detailed instructions or guidance for local authorities as to their procedure for selling council houses and shops to tenants.

MR. MARPLES, replying, said that the Minister proposed to issue the circular on the sale of council houses as soon as the Housing Bill had received the Royal Assent.

Rent-Restricted Houses

On July 29 LIEUTENANT-COMMANDER BALDOCK asked the Minister of Housing and Local Government what estimates he had received of the number of rent-restricted houses that had fallen into a state that was beyond economic repair since 1945; and whether he would make a statement on this serious position.

Replying, MR. MARPLES said that the Minister had received no estimates. The Government were considering the revision of the Rent Restrictions Acts, but the Minister could not say yet when legislation would be introduced.

Plymouth Building Licences

MR. FOOT asked the Minister of Housing and Local Government, on July 29, whether he was aware that the refusal of licences for the Plymouth City Centre during the past six months had not resulted in the expansion of other building activities in the city; and whether he would, therefore, take steps to issue such licences.

MR. MARPLES, who replied, said that the Minister realised the position in Plymouth, and he had recently allowed two new projects to start in the central area because all the steel they needed was available.

House Rebuilding in Hornsey

On July 29 MR. BROCKWAY asked the Minister of Housing and Local Government if his attention had been drawn to the decision of the Hornsey Borough Council to permit the rebuilding of a house at a cost of £9,850; and what reply he had made to their application for a licence for this purpose.

Replying for the Minister, MR. MARPLES said that the Borough Council were told that there was no objection to their issuing a licence for the rebuilding of this damaged house subject to the size and cost being kept within reasonable limits, and to the observance of current economy standards in the use of scarce materials. The Minister was asking the Council for further details. He ought, perhaps, to add that two existing buildings would be released.

Requisition of Empty Houses

MR. SPARKS asked the Minister of Housing and Local Government, on July 29, if he was aware of the growing number of houses and flats in London and Greater London standing empty for long periods largely on account of high premiums for contents being made a condition of sale or tenancy; and, in view of the inability of local authorities to acquire such property at reasonable prices, if he would permit local authorities to requisition such dwellings for persons who were homeless or in the greatest need.

MR. MARPLES, who replied, said that the Minister was always ready to entertain Compulsory Purchase Orders made by local authorities for the acquisition of suitable empty properties. At this date he did not think that war-time requisitioning powers should be used save in exceptional circumstances.

Burghers of Calais

MR. ROBERT JENKINS asked the Minister of Works whether he would remove Rodin's "The Burghers of Calais" from its present position under the Victoria Tower, where it was obscured by trees and a background of corrugated iron and scaffolding, to a site where it could be seen and appreciated by the public; and whether he would be prepared to allow it to be placed in Dulwich Park, if there was any difficulty in finding a suitable setting for this historic work in Central London.

MR. ECCLES said that when funds could be made available he would consider moving this group to a site near by where it would be seen to better advantage. He was consulting the Royal Fine Art Commission on the matter.

Rating of Dwelling-Houses

On August 1 MR. J. E. POWELL asked the Minister of Housing and Local Government if he would make a statement on the progress of the revaluation of dwelling-houses for rating.

MR. MACMILLAN said that difficulties had been encountered in assessing dwelling-houses in accordance with the provisions of the Local Government Act, 1948, and it had become clear to the Government that Parliament would, in due course, have to be asked to amend these provisions. It was intended that the basis should still be pre-war value. Valuation staff would shortly be employed on preliminary work to enable the Government to formulate proposals.

Historic Houses

On August 1, MR. COLEGATE called attention to the Gowers Report on Historic Houses. He urged the Government to take action and to grant financial help to preserve a great national heritage.

Other members supported this plea. MR. BOYD-CARPENTER, the Financial Secretary to the Treasury, replying, said that it would cut right across the accepted canons of taxation if special tax adjustments, which represented one category of the Gowers Committee's recommendations, were made in favour of individuals by reason of the fact that they happened to be the owners or inhabitants of ancient houses. The Government, however, were anxious to do everything possible within the limits of financial considerations to preserve such houses, their contents and grounds, and they were examining afresh the best way in which the responsibility of the State to give positive help could be recognised in practice. The Chancellor of the Exchequer had recognised that when a suitable scheme for carrying out work of preservation could be embodied in appropriate legislation it would be necessary for him to give it life by a cash provision, and although that provision would have to be limited, he had expressed his readiness to do so. In addition, he did not rule out the possibility, contemplated by the last Government, of a limited use of the National Land Fund in respect of public acquisition.

Housing Act

On August 1 the Royal Assent was given, by Commission, to the Housing Act and the Town Development Act.

Both Houses adjourned until Tuesday, October 14.

FINANCING BUILDING

Council to Seek Alternative to Public Works Loan Board

SUTTON COLDFIELD Town Council decided on July 30 to advertise for loans for building purposes. As far as was known, only one other local authority, Middlesbrough, had taken this step, it was stated.

It was disclosed that the finance committee is concerned that interest on amounts borrowed from the Public Works Loan Board is payable over such a long period. At present the council is compelled to repay the board at the rate of 4½ per cent. annually over a period of 60 years. Under the new proposal the rate of interest would remain the same but the period would be reduced to 15 years.

In addition the council will accept the following repayment rates: 3¾ per cent. a year for seven years and 4 per cent. a year for ten years.

The council approved an application for a £50,000 loan to cover the cost of 39 houses on the new Falcon Lodge estate.

Destructive Children

Wallasey magistrates are to take measures to stop wilful damage by children to property left on building sites by contractors, and also to stop wilful damage to houses in the course of erection. Parents are to be made to pay compensation for the damage caused.

ADVANCED PLUMBING STUDIES

New Syllabuses Issued

THE Building Apprenticeship and Training Council's fourth report (published in June, 1949) contained, *inter alia*, a request that national apprenticeship councils should give consideration to a long-term policy for schemes of training for supervisory and administrative posts. At a meeting held towards the end of 1950 the Plumbing Trades' National Apprenticeship Council discussed this particular feature of the B.A.T.C. report, and a sub-committee was set up to examine the question in so far as it affected the plumbing industry. Certain proposals were drawn up and joint meetings were held with the Institute of Plumbers; as a result, a new national council was formed to sponsor advanced technical education, the constituent bodies being the Plumbing Trades' National Apprenticeship Council, the Institute of Plumbers, the National Federation of Plumbers and Domestic Engineers (Employers), the Plumbing Trades' Union, the Association of Principals of Technical Institutions, and the National Association of Plumbing Teachers. Since then, following an invitation from the council, the City and Guilds of London Institute has appointed a representative. The Ministry of Education is represented on the council by an assessor. The inaugural meeting of the council was held in February, 1951. The chairman is Mr. D. A. G. Reid, B.Sc. (Eng.), M.I.C.E., principal of the Brixton School of Building.

The council is known as the Plumbing Industry Further Education Council, and its functions are: (a) To encourage and promote further education in the plumbing industry; (b) to encourage and promote advanced courses to assist in training for posts of responsibility; (c) to co-operate with interested organisations to achieve the council's objects; (d) to further the express desire of the Plumbing Trades' National Apprenticeship Council and the Institute of Plumbers to co-operate in further education in the plumbing industry and, in particular, to take measures by which the latter body shall confer status upon the successful candidates in examinations by certificates and diplomas under the Institute of Plumbers' seal.

Two sub-committees were set up by the council, one to draw up syllabuses of training and the other to draft the rules and constitution. The syllabus sub-committee has prepared syllabuses dealing with foremanship courses and advanced technical studies, and they are now available in a printed booklet, price 1s., post free. The rules and constitution have been drawn up by the appointed sub-committee and have been ratified by all the constituent bodies.

Conditions of Admission

The syllabuses are of an advanced nature, and in two stages: one for the training of plumbers for supervisory posts and foremanship, the other to train plumbers progressively for administrative posts. Conditions of admission to the courses require either that the applicant shall have obtained certain technical qualifications or that he shall satisfy selection committees which are to be set up in the various regions in conjunction with the appropriate technical colleges. It is anticipated that entrants to the courses will normally be expected to hold a first-class pass in the Final City and Guilds Examination in Plumber's Work. The Institute of Plumbers will issue the appropriate certificates at all stages of the students' progress.

This development in technical training is a serious attempt to link up the courses of study previously available to plumbers with new courses to assist their progress to higher posts of supervision and management in the plumbing industry, and it is hoped that plumbing students will avail themselves of the facilities. The co-operation of the regional advisory councils for higher technological education, the principals in technical institutions and the plumbing teachers is sought to ensure the success of the scheme.

Inquiries regarding the scheme should be sent to the Hon. Secretary, Mr. A. E. Soones, Plumbing Industry Further Education Council, 15, Abbeville-road, Clapham, S.W.4.

THE MODERN BUILDING INDUSTRY

Widening Executive Responsibilities

SPEAKING at a luncheon following the L.M.B.A. Central Area No. 5 half-yearly meeting in Putney under the chairmanship of the Area Chairman, Mr. E. G. S. Buchanan, the President, MR. D. E. WOODBINE PARISH, F.I.O.B., said that the beginning of the new Elizabethan era marked the culmination of a period of continuous evolution in the building industry, which had started over 100 years ago with the great Thomas Cubitt, the first of the modern building trades employers.

During that period, the master craftsman had given place to the master builder, who now had to administer and organise the very complex process of assembly, which the present forms of building construction and industrial conditions entailed.

The period had also witnessed the emancipation of the working classes, which, so far as the building industry was concerned, found expression in the joint machinery which regulated the industrial conditions of employment, and had proved itself over many years to be of such immense benefit, both to employer and employed.

It was not inappropriate that the industry should take careful stock of the position and examine the way in which it had tried to adapt itself to the many changes that had occurred. The Working Party Report had covered a wide field of inquiry, and between the lines one indisputable fact emerged. That was that technical education had played and must continue to play a most important part in the process of industrial evolution. It was reasonable to predict that within the next half century there would be further enormous developments, both in forms and methods of construction and administrative techniques and industrial conditions.

"It is our responsibility as employers," said Mr. Woodbine Parish, "to see that the industry attracts and trains sufficient suitable young men to undertake the widening executive responsibilities that will inevitably arise. Employers must give greater attention to selecting and encouraging young entrants to train for future supervisory and junior managerial posts in the industry. The Public and Secondary Grammar Schools are being encouraged to interest school leavers in the building industry as a career, and there is every reason to develop this type of entry in view of the increasing administrative needs of the industry."

PRESTRESSED BEAM TEST

Design to be used in Medical School

EXTENSIVE three-day tests on a frame consisting of reinforced concrete columns and a pre-stressed concrete beam built at the Manchester works of the Trussed Concrete Steel Co., Ltd., took place last month. The beam was a prototype of about a hundred pre-stressed members which will be incorporated into the framework of the new medical school for Liverpool University. The framing of the building is being designed and will be constructed by the Trussed Concrete Steel Co., Ltd., under the instructions of the architects, Messrs. Weightman and Bullen.

Each beam, 37 ft. long, 15 in. deep at the ends and 36 in. deep at the centre, will be cast *in situ*, post-tensioned and will have mild steel reinforcement incorporated at the ends for connection and continuity with r.c. columns in order to obtain a rigid monolithic structure. It was to establish the effectiveness of this composite structure that the test was undertaken, every effort being made to create the conditions which would exist in the actual frame.

In the test, the beam was cast *in situ*, post-tensioned by the "Freyssinet" method and rigidly connected to r.c. columns. These columns were designed to give the correct value of the theoretical restraint and to achieve this the columns above the beam were guyed to heavy mass-concrete blocks. An instrument kindly loaned by Manchester University enabled the guy rods to be maintained at the correct tension throughout the tests and numerous deflectometers were used for recording purposes. The site conditions were simulated as far as possible during the construction of the framework, which was erected under the supervision of the foreman and other supervisory staff who will be in charge of the actual work.

The design loads are 60 lb. per sq. ft. dead weight (floors and finishes) and 80 lb. per sq. ft. live, which, with columns at 10 ft. centres in the longitudinal direction in the future building, results in a uniformly distributed load of 23.6 tons per beam.

Copper ingots each weighing approximately 250 lb. were used for loading purposes, and it was not until the load applied equalled the dead weight plus twice the live load that the first hair crack appeared. The beam was not finally destroyed until a load of 60 tons was applied, which represents the dead weight plus 3¾ times the live load.

The test was claimed to be very satisfactory, and after further study of the data a detailed technical report will be published.

BOOK

GAS DISCHARGE LAMPS. By J. Funke and P. J. Oranje. Pp. 270. illustrated. (Philips Technical Library.) Price 30s. net.

THIS VOLUME tells the story of the first electrical distribution systems to carry electricity for the production of artificial light, and other developments. The general discussion in each chapter and the basic lamp characteristics are not limited to the products of any one company, but are of general application and interest. Instruction is given in the science of illumination, and more fundamentally in the physics of the electrical discharge. In addition to a compilation of technical research papers and articles, the book contains much hitherto unpublished work.

CRANES ON BUILDING SITES

Safety Precautions to be Taken

SAFETY precautions for cranes as used on public works contracts was the subject of a paper read by MR. L. S. WINKWORTH, of Holloway Bros. (London), Ltd., at a meeting of the Central Metropolitan Group of the London Industrial Committee held in London recently.

The safety officer's duties in connection with public works and civil engineering contracts, he said, differed very much from those of a factory, as in the former category you might have say 3,000 employees engaged on 50 contracts spread 400 miles apart, whereas in the latter case the duties were more or less static and possibly under one roof.

In the course of his paper he summarised four types of cranes in use, namely, hand derrick, power derrick, locomotive crane and gantry crane. Each had characteristics of its own and pitfalls which had to be guarded against, Mr. Winkworth said, and we take the following extracts from his subsequent remarks:—

In the erection of Scotch derrick cranes it is important to see that the back legs are assembled correctly. These are of different lengths; the shorter one is first placed in position on the mast pin, and is the left-hand one when viewed from the back of the crane. If they are not erected correctly the mast will not be plumb and other troubles are sure to follow.

See that the cills are fixed at 90 degrees apart unless designed for another angle, and are quite level. All bolts, pins, collars and sheaves are to be correctly fitted, and the bonds examined before reeving. If in 10 diameters of the rope more than 5 per cent. of the wires are broken, the rope must be replaced.

The anchorage of the crane is a very important factor. Sometimes the derrick is mounted on timber piles or a gantry above ground; sometimes it sits on a jetty and is bolted to the structure; at other times loose kentledge in the way of concrete or C.I. blocks are placed over the ends of the cills. It is usual in this country to allow a margin of 50 per cent.—in America 33 per cent.—above the weight required to balance the over-turning moment of the crane when carrying full load at its specified maximum radius. A rough rule to ascertain the necessary kentledge is to allow 3½ times the maximum S.W.L. on each cill, but it is very desirable to calculate the necessary anchorage in each case as this depends upon the length and weight of the component parts.

When the crane has been correctly assembled, Factories Acts and Building Regulations call for a thorough inspection and over-load test before being put into commission. The derrick should be proved with a visual safe load indicator and a sound safe load indicator. This latter should seldom come into operation with a good driver, but it is a warning to him and those round about that the crane is being overloaded.

Hand, Loco and Gantry Cranes

In the case of hand cranes the load should not be lowered on the brake, leaving the handles free to revolve. The load must be lowered in gear by the men using the handles. Many accidents have happened by men being struck by revolving handles. With all types of cranes it is an offence for the driver to leave the load suspended and unattended; this also applies to crane grabs left suspended.

Safety regulations for locomotive cranes are more or less the same as those already given for Scotch derricks, with the addition of the tracks being maintained in good condition and provided with stops at the ends of the track. Loco cranes are usually provided with ballast in the under-carriage to assist stability, and it is very important to see that this is in position. The quantity of water in the boiler, in the tanks, and coal aboard makes a big difference to stability.

Now for a few words about gantry cranes. These are sometimes used on contract sites and are often to be found in workshops where they are usually neglected. The Factories Acts calls for a thorough inspection by a competent person at least once in every 14 months, and a record of such examination entered in the Factory Register, Form 88.

Cranes in Factories

No crane shall be installed and used in a factory for the first time unless it has been thoroughly inspected and tested by a competent person with an over-load of 25 per cent. to ensure that there are no defects, and a certificate of test issued. There have been many examples of where an over-loaded gantry crane has been installed as an afterthought without any regard as to the extra load imposed on the stanchions and foundations. With the over-load test, the maximum deflection in inches should not exceed the figure obtained by multiplying the square of the span in feet by the coefficient of deflection for the beam in question.

Other Safety Measures

In conclusion I would like to make some reference to other safety measures which are laid down in Building Regulations for users of jib cranes. They should be thoroughly examined by a competent person once a week, and the result of such an examination entered in the factory register. All gearing must be efficiently guarded; outdoor cranes should be provided with a cabin for the driver which in cold weather has to be heated. The provision of the cabin is not only for the protection of the driver, but also for the gearing, as accidents have happened owing to the brake drums and linings being saturated by rain. A safe means of access is to be provided for the driver, and a suitable platform erected round the cabin. The driver shall be a competent person for his job, together with the banksman who gives signals, both of whom must be over 18 years of age.

Every jib crane shall have its S.W.L. clearly marked upon it, and if of derricking type shall have the S.W.L. at various radii plainly indicated. In the case where movable weights are used for stability kentledge, a diagram or notice indicating the position and amount of weights shall be affixed on the crane. No crane which has any timber structural member shall be used.

I have only dealt generally with the mechanical safety aspects of cranes in use, not mentioning electrical hazards and snags such as the complicated wiring, earthing, jibs fouling slings, shackles, etc.; these could not be included in the available time.

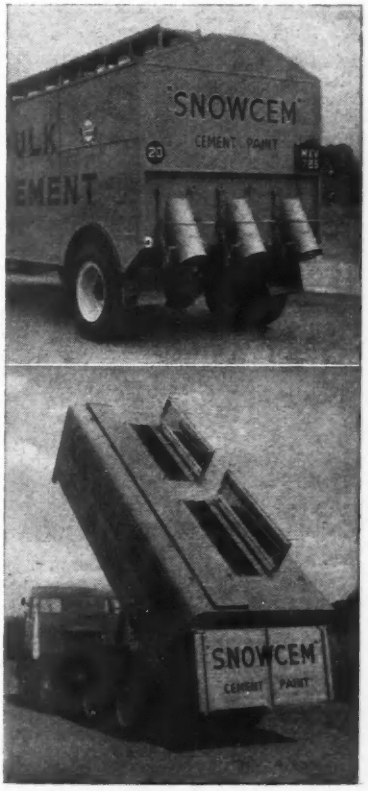
CEMENT TRANSPORT IN BULK

New Conveyors

DURING the speech made by MR. DAVID ECCLES, Minister of Works, at the recent opening of the new laboratories of the Blue Circle Group of Companies at Greenhithe [illustrated in our issue of July 18], he said: "I hope you will help the balance of payments by pushing on with the delivery of cement in bulk. It is true that the price of paper and paper-making material has recently gone down but that does not mean that we can afford to put one ton of cement into bags if it can be delivered in bulk."

During the last two years the Blue Circle Group have considerably developed their fleet of lorries for bulk delivery and now have 127 vehicles on the road. Improvements in vehicle design are continually being made and two of the most recent types of such vehicles are here illustrated. One of these is an improved design of the large-capacity high-angle tipper. This vehicle, capable of transporting 14-15 tons, is particularly suitable for delivery to large-scale field jobs where the cement can be discharged direct into weigh-batching plants.

The newly designed three-spout air-assisted discharge lorry is capable of holding 7½-8 tons. This type of vehicle is used for delivering to sites in built-up areas where the discharge can be controlled and the cement made to flow through a small orifice into enclosed hoppers.



BULK CEMENT DELIVERY. Seen right (top) is a 3-spout air-assisted discharge lorry of 7½/8 tons capacity and (below) a 14-15 tons tipping lorry.

BUILDING LABOURERS ON HOSPITAL STAFFS

Inclusion in Whitley Councils

A CIRCULAR (A.S.C. (Builders) Circular 4) issued by the Whitley Councils for the Health Services (Great Britain) sets out agreements reached by the Building Craftsmen's Committee of the Ancillary Staffs Council concerning building labourers in hospitals, etc., and employing authorities are requested to bring them into force.

The Minister of Health has approved the provisions of the circular as approved remuneration and conditions of service under Regulation 3 of the National Health Service (Remuneration and Conditions of Service) Regulations, 1951 (S.I. 1951, No. 1373).

The circular is signed by Mr. C. R. Gove, of the Ministry of Health, and Sir Richard Coppock representing, respectively, the management and staff sides of the committee.

The circular states:—

1. *Constitution of Committee.*—It has now been agreed that building labourers be brought within the purview of the Building Craftsmen's Committee of the Ancillary Staffs Council, and that the title of the Committee accordingly be changed to "Builders' Committee." The Staff Side of the Committee has been increased by one representative nominated jointly by the Confederation of Health Service Employees, the National Union of General and Municipal Workers, the National Union of Public Employees and the Transport and General Workers Union.

2. *Scope.*—For the purposes of this agreement "building labourers" are those labourers who are associated with building craftsmen or who are engaged on the normal work of a labourer in the building industry.

3. *Rates of Pay.*—The Appendix to A.S.C. (Builders) Circular 1, as appropriate, shall be extended to apply to building labourers. The present rates of pay (per hour) for building labourers are as follows:—

	s.	d.
London within 12 miles radius...	3	0½
London, within 12-15 miles radius	3	0
Grade A. Districts	2	11
„ A1 „	2	10½
„ A2 „	2	10
„ A3 „	2	9½
Liverpool—Special	3	0½
Scotland	2	11

The districts referred to are those prescribed by the National Joint Council for the Building Industry and the Scottish National Joint Council for the Building Industry. The location of the hospital or institution determines the rate of pay.

4. *Conditions of Service.*—Paragraph 4 of A.S.C. (Builders) Circular 1, as amended by paragraphs 1 and 2 of A.S.C. (Builders) Circular 2, shall be extended to apply to building labourers, subject to the substitution of "July 1, 1952" for "August 1, 1951" in the latter paragraphs.

5. *Holiday Leave.*—It has been agreed that the full holiday leave entitlement under A.S.C. Circular 7 shall be granted to building labourers for the current leave year, and it should, therefore, be assessed on the basis of the individual employee's service at April 1, 1952.

6. *Date of Operation.*—The provisions of this circular will operate from the beginning of the full pay period in which July 1, 1952, fell, except for the provisions as to holiday leave in paragraph 5 above.

THE MINISTER OF WORKS (Mr. David Eccles, M.P.) with four young builders who have gained scholarship awards tenable at a University. Left to right they are: D. Wright (Little Hulton); R. S. D'Arcy (Pinner); R. G. Daintree (Southport); and P. H. Diggle (Ipswich).

B.A.T.C. AWARDS

Minister Outlines Future Prospects

MR. DAVID ECCLES, Minister of Works, distributed scholarship awards, offered by the Building Apprenticeship Training Council, to four building apprentices at a ceremony held at the Institution of Civil Engineers, Great George-street, London, on July 30. Sir George Gater, chairman of B.A.T.C., presided. The winners of the awards, which are tenable for degree courses at Manchester, Cardiff or Leeds Universities, or for the Higher National Diploma course at various technical colleges throughout the country, are as follows:—

D. Wright, bricklayer (studied at Bolton Municipal Technical College); R. S. D'Arcy, plumber (Willesden Technical College); R. G. Daintree, plumber (Southport Technical College); and P. H. Diggle, stonesetter (precast concrete) (Ipswich School of Technology).

Since the scholarship scheme was introduced by the B.A.T.C. in 1947, 29 boys have gained these awards for full-time study at universities or technical colleges. A condition of the awards is that the boys will, on completion of their courses, take up positions in the building industry as distinct from the allied professions, such as architecture or surveying.

Addressing the apprentices, their parents and officials representing the various sides of the industry who were present, MR. ECCLES referred to the hesitancy of some employers in taking on young apprentices because they were apparently doubtful whether a large volume of building work would be maintained in the future. The Minister said that there was no reason why they should have the slightest doubt on the matter. The country had a vast building programme to carry out. There were not only huge demands for houses and schools, but also a tremendous amount of industrial building work waiting to be done. In fact, one of the defects of our system was that we had too much work ahead of us, he declared. It was because there was so much to be done that we needed a system of planning to keep control over it. In his opinion the future for building was more secure than for any other industry.

The shortage of craftsmen was one aspect of the present situation which was particularly unfortunate, Mr. Eccles continued. The distribution of craftsmen in various areas was, to some extent, out of balance and it was sometimes necessary to shift numbers of craftsmen from place to place in order to avoid serious hold-ups. It was regrettable that the numbers of these skilled men were diminishing, for, generally, the traditional type of building was preferred to the non-traditional and it would be a pity if it faded out completely. But in any event, declared the Minister, building would not stop.

Management on the site was another point which the speaker touched upon. The importance of good management could not be exaggerated, he said, and he thought that more suitable young men should be encouraged to train for these responsible positions.

Referring to the register of indentured apprentices, Mr. Eccles said that the decision of the industry to take upon itself the duty of keeping the register was a wise one. He did not think that the taxpayer should be asked to bear the cost of keeping the register indefinitely.

Educational Facilities

To explain briefly and in general terms the facilities for further education provided by Middlesex County Council, their Education Committee has issued a brochure. It furnishes a list of particular courses, activities or services, with their addresses and fees. For convenience, the contents have been divided into sections, each dealing with a specific branch. "Further Education in Middlesex, Session 1952-53," is available at the Education Offices, 10, Great George-street, Westminster, S.W.1.

NEWS IN BRIEF

Institute of Welding President

Mr. A. Robert Jenkins, J.P., A.I.Mech.E., deputy managing director of Robert Jenkins & Co., Ltd., of Rotherham, was installed as president of the Institute of Welding for 1952/53 at the annual general meeting of the Institute held in London on July 22. The new vice-president of the Institute is Mr. H. B. Fergusson, M.I.N.A., M.I.Mech.E., M.E.I.Canada, a director of G. A. Harvey & Co. (London), Ltd.

Stonemasonry Examinations

The London Association of Master Stone Masons is arranging the Apprentices' Practical Examination to take place on September 6 at the Wandsworth Stonemasonry Works, 78/84, Wandsworth-road, S.W.8. About 80 boys will take part in the examination. On September 16, the prize-giving will be held at the offices of the L.M.B.A., 47, Bedford-square, W.C.1, at 2.30 p.m.

Durham C.C. and Professional Employment

The Joint Emergency Committee of the Professions, on which the Engineers' Guild is represented, have issued a statement welcoming the terms of the arbitrators' award in connection with their dispute with the Durham County Council. The statement adds that the committee regard the award "as closing an unhappy chapter in the relations between the Durham County Council and its professional employees," and look forward with confidence to the restoration of the harmony which previously existed.

Kent Development Plan

Kent County Council has been informed that up to July 18, the last date for the submission of objections to the Kent Development Plan (Part A), the Minister of Housing and Local Government received 510 objections to the Plan, which deals with more than 900,000 acres of urban and rural land. It is understood that many of the objections relate to highway proposals. The Minister is expected to hold a public inquiry into the proposals later this year, but not before October 19.

Saving Steel Scrap

The Minister of Housing and Local Government, Mr. Harold Macmillan, has sent a circular to local authorities in England and Wales asking them to review their salvage arrangements, to ensure that as much iron and steel scrap as can be recovered economically is collected from all available sources and sent to the blast furnaces. The circular gives details of the current prices for scrap and says that the present demand is likely to continue. It also lists the addresses of the scrap drive committees in the different regions.

Lecture Courses

A "Bulletin of Special Courses in Higher Technology, 1952-53" has been published by the Regional Advisory Council, Tavistock-house South, Tavistock-square, W.C.1. The purpose of this bulletin is to give publicity to special advanced courses held in the London and Home Counties region which do not regularly appear in college calendars or prospectuses as a part of the normal curriculum. They are, as a rule, part-time (usually evening) courses, but full-time courses, which are specially arranged and are not of more than three months' duration, are also included.

Building Courses

A prospectus for the session 1952-53 has been published by the Middlesex County Council Education Committee, giving details of the building and architectural courses available at Willesden Technical College, Denzil-road, N.W.10. These include full-time and part-time day, as well as evening, courses.

Economic Rents

Wallasey Council is considering a scheme which involves rent rebates and which affects 3,500 Corporation houses and tenants. It is suggested that a complete economic rent should be imposed on all tenants of Corporation houses, and this will involve increases of rent of between 3s. 4d. and 7s. 6d. a week. Tenants on whom hardship may devolve may apply for relief.

Redecoration at the British Museum

Redecoration of the Reading Room of the British Museum has provided the first opportunity since 1907, when the Reading Room was last redecorated, to examine the structure above cornice level. Considering the nearby war-time "incidents," the dome was found to be in remarkably good condition and little repair was required. It has been painted in neutral grey and mid-cream, similar to the original colours. In the course of years the original shades had been completely blotted out by "pattern" staining showing the unique dome construction through the surface paint. Bookcases, desks and chairs have been stripped and repolished, chairs and desk tops re-upholstered and the floor re-covered in cork carpet. Fluorescent lighting fittings have been installed as well as tungsten general lighting, and the dome is illuminated with a circle of 5-ft. tubes at cornice level. A plenum system of ventilation has been installed in place of the original heating and ventilating system of warm air ducts under the floor. The new installation will provide filtered fresh air and automatically controlled conditions of comfort. It will thus help to preserve valuable books as well as the building.

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M-W.53B

Glass-Fibre Plastics

The Council of the British Plastics Federation has called an informal meeting at its offices at 47, Piccadilly, London, W.1, at 2.30 p.m. on August 14, to discuss what facilities might be set up within the Federation to cater for firms interested in reinforced low-pressure glass-fibre plastics. Interested non-member firms should communicate with the Director of the Federation at that address.

Report on Aluminium

The annual report of the Aluminium Development Association has been issued, covering their activities during 1951. Details are given of that part of the Association's work dealing with information and education, comprising broadly the preparation and issue of publications, the general supply of information in other ways through library services and the handling of individual inquiries (just under 3,000 during the year), liaison with leading educational authorities and services for the major technical colleges, universities and adults' educational institutions. The section of work comprising research was in the main divided between sub-committees dealing separately with welding; large riveted joints; structural engineering; corrosion problems; and finishes for aluminium.

Unusual Method of Construction

Birmingham Corporation are erecting six multi-storey blocks of flats at Tile Cross which are being put up by an unusual method. Mr. P. Ainley, area manager of G. Wimpey and Co., Ltd., who are building the flats, states that to the best of the firm's knowledge, this is the first time the method had been used for tall blocks of flats which can be erected up to 12 storeys high. The shell of one six-storey block of flats can be put up in 48 days and each of the six-storey blocks will have 30 flats. A 115-ft. high tower crane is being used on the job.

OVERCROWDING OF PRISONS

Urgent Need for New Buildings

THE Select Committee on Estimates, in its report on prisons, published on July 29 (Stationery Office, 9s.), draws attention to the serious overcrowding in prisons, and the need for new buildings. It is pointed out that the total number of prisoners in Great Britain, now well over 25,000, is more than double that for each year during the 20 years before the last war, and many prisoners are sleeping three in a cell.

The report notes that with few exceptions all existing prisons are antiquated nineteenth-century structures difficult to administer and expensive to maintain. It is urged that the building of new prisons, in accordance with plans already approved, should be started as early as practicable.

It is recommended that Duke Street Prison, Glasgow, should be closed without delay, and that plans for the proposed new prison camp in the north of England or the Midlands should be put in hand at the earliest possible moment.

PERSONAL COLUMN

THE DIRECTORS of British Insulated Callender's Cables, Ltd., announce that they have accepted with regret the resignation of MR. P. V. HUNTER, C.B.E., Hon. M.I.E.E., as deputy chairman. Mr. Hunter, who celebrates his 70th birthday this month, will, however, continue as a non-executive director and will remain on the boards of several of the subsidiary companies.

OVERSEAS BUILDING

[From Our Own Correspondents]

Canada.—It was officially announced in Quebec City on August 4 that the hydro-electric commission for the province of Quebec is undertaking a $100m. project to provide power for every corner of the Gaspé Peninsular. This development will take place at a point where the 260-mile long Bersimis River flows into the St. Lawrence, about 30 miles west of Baie Comeau. Underwater cables will have to be laid where the St. Lawrence is 40 miles wide, and a new town, to be built at a cost of $20m., is part of the project, which is expected to be completed by 1956.

Ceylon.—A large smelting plant is to be built in Ceylon alongside the Government steel rolling mill just outside Colombo. . . . The Ceylon Government aided by a Dutch expert is drafting tenders for the establishment of a sugar plant in the North Central Province. This plant will be constructed to cope with the deliveries of cane of the peasant farmers. . . . A number of large textile mills are planned for the island. The Co-operative Wholesale Establishment is to establish its own textile factory with 200 looms and 10,000 spindles. This will give some indication of the size of the plant. The Government is also to build a textile plant which will employ 400 looms and 22,000 spindles and will be twice as large as the CWE factory.

Holland.—The Eelde Airfield in Holland is to be enlarged from its present size of 160 acres to 360 acres, with the main runway lengthened to 1,800 metres, and a second runway of 1,500 metres is to be added. A new control tower, to house the radio and meteorological services and the traffic control is also to be built. The restaurant will be enlarged as well as the accommodation for customs and police. Total costs are estimated at £1,000,000, most of which will be borne by the Government. The completion of this work will mean that the airfield can be used for heavy aircraft.

Malaya and Singapore.—A large spinning factory of 5,600 spindles is to be built in Malaya. Information regarding this project can be obtained from the Malayan Office in London who are interested in British building inquiries. . . . A site has also been acquired on the Colonial Development Corporation's industrial estate in Singapore and factories are due for erection in 1953. Designs and plans are to be considered by the local planning authorities. . . . South-East Asia now has its own corrugated fibre-board plant owned by the Singapore Glass Company, Limited. The plant covers 25,000 sq. ft. and will produce corrugated board at a minimum rate of 50 feet per minute. . . . The Building Materials Control Board set up by the Singapore Government in June, 1951, to regulate importation and distribution of building materials is to be dissolved. Restrictions, however, on the building of plants costing more than 50,000 dollars are to remain for the time being.

Norway.—The Norwegian Government's proposition for extending the development of the State Ironworks has been approved and a limestone crushing plant is to be built to enable the ironworks to become more self-sufficient. No definite plans have, as yet, been made regarding building designs or procurement of materials but it is understood that the usual type of crushing plant will be erected. Foreign materials will be considered if they are competitive. . . . A grant has been allocated for investigatory and other work connected with ore deposits and mining activities at Dunderland, Rana, South Varanger and Skjervoy. This will entail contsruction of mining buildings cost of which is in the region of £100,000.

A research centre for Norwegian industry is to be set up at Gaulstad, near Oslo. Its cost will be £6,000,000. The Director of the Industrial and Scientific Research Council states that the first stage of the construction programme involves the erection of several buildings for the Central Institute of Industrial Research, with a floor space of 11,000 square metres. Another large building to be erected also at Gaulstad, will accommodate the paper industry's research institute with a floor space of 4,000 square metres.

Portuguese East Africa.—Continuing with its large building extension plans, Portuguese East African Authorities announce further projects. Most interesting of all is the proposed urbanisation plan for the city of Lourenço Marques which has now been approved by the Portuguese Government in Lisbon and is in the stage of final study by the Municipality and the Macombique Government. A small artificial harbour is to be constructed by dropping concrete blocks and rocks into the shallow water. Opposite this harbour a large sea-water swimming pool is to be laid out. This pool is to be some 200 metres long and kidney-shaped and will be situated some 300 metres from the coast. A restaurant is to be built as part of the amenities. Mr. Rodrigues da Silva, the chief architect of the Municipality would be interested in inquiries and can be reached at Camara Municipal, Lourenço Marques. A number of factories are also scheduled for construction as well as houses, single and in blocks, and the usual supplementary buildings.

Rhodesia.—Rhodesia is to build a University which will serve both North and South territories. The Rhodesian Fund founded for the purpose of raising capital for building has already reached £250,000. It is hoped that plans for the first buildings and the general lay-out of the site of 250 acres will be complete by the end of the year and that the foundation stone will be laid early in the Rhodes Jubilee Year. Firms interested in this project should approach the Southern Rhodesian Office, 429, Strand, W.C.2, for particulars, or, should write to Dr. Dighton, B.A., P.O. Box 45, Causeway, S. Rhodesia. It is fairly certain that designs will pattern the Universities of the United Kingdom and this will mean using British techniques in building and probably materials native to this country.

Turkey.—Another new sugar refinery is to be built at Amasya in Turkey. It is hoped, subsequently, to build others at Konya and Adana. . . . Two new oil wells are being drilled at Raman, and prospecting is continuing in the Iskenderun area. The contract for the construction of an oil refinery at Batman has been awarded to an American firm. The National Assembly has voted additional appropriations for this year's construction and maintenance programme. . . . Turkey has asked the Mutual Security Agency for $3.5 million direct aid for the purchase of road-construction machinery, up to the end of 1953. . . . The Ministry of Public Works are inviting tenders for the extension and reconstruction of the port of Haydarpasa (Istanbul). . . A Commission is preparing plans for an international competition for the Istanbul suspension bridge. One of three sites is expected to be chosen:—Sultanahmed, Uskadar, Rumelihisari, Kandilli, Beylerbeyi, Ortakoy.

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NEW COMPANIES

THE FOLLOWING NEW COMPANIES, registered in England, have been announced by Jordan and Sons, Ltd., company registration agents.

W. A. Cooper (Bldrs), Ltd. (508792). Regd. June 12, School-passage, Hawks-rd., Kingston-on-Thames, Surrey. Nom. cap.: £500. Dirs.: W. A. Cooper and Mrs. G. I. Cooper, 105, Beechcroft-ave., New Malden, Surrey.

Parkes and Cox (Bldrs.), Ltd. (508830). Regd. June 13. Berrington-chbrs., 93, Tettenhall-rd., Wolverhampton. Nom. cap.: £500. Dir.: M. J. Parkes, 9, Kelby-rd., Northfield, Birmingham, 31.

Soil-Cement Stabilisation, Ltd. (508406). Regd. May 29, 23a, Devonshire-st., S.W.1. road makers and menders, agricultural and transport engrs, cement and concrete contractors, etc. Nom. cap.: £100. Dirs.: to be apptd. by subs. Subs.: J. I. Gibbs (co. dir.) and Mrs. D. Gibbs, 7, Queens Gdns, Hove, Sussex.

H. W. Sargent and Co., Ltd. (508857). Regd. June 14, Fairview, Church-rd., Horley, Surrey, bldrs., etc. Nom. cap.: £100. Dir.: H. W. Sargent, Fairview, Church-rd., Horley, Surrey.

James L. Phillips (Property), Ltd. (508858). Regd. June 14, 44-49, Prudential-bldgs., Park-row, Leeds, 1, bldrs., etc. Nom. cap.: £100. Dirs.: J. L. Phillips and Margaret M. Phillips, 38, Ayresome-av., Leeds, 8.

Woodward and Nicholls, Ltd. (508970). Regd. June 18, 2, Foresters-rd., Tewkesbury, bldrs., etc. Nom. cap.: £500. Dir.: F. Woodward.

H. A. Garrod, Ltd. (508924). Regd. June 17, 69, Melton-rd. North, Wellingborough, bldrs. and contractors, etc. Nom. cap.: £5,000. Dir.: R. A. Garrod.

Jonathan James, Ltd. (508903). Regd. June 16, 55-57, Lacy-rd., Putney, S.W.15, plasterers, decorators, bldrs., etc. Nom. cap.: £1,000. Sub.: F. G. Minter, 5, Walton-pl., S.W.3 (co. dir.).

A. Binder, Ltd. (508973). Regd. June 19, 34, Court Hey-rd., Liverpool, 16, joiners and contractors. Nom. cap.: £1,000. Permt. dirs.: A. Binder and Mrs. A. Binder.

A. T. Chown and Co., Ltd. (508978). Regd. June 19, 21-23, Chilworth-st., W.2, bldrs. and contractors, etc. Nom. cap.: £5,000. Dirs.: A. T. Chown and Mrs. M. Chown, East Park House, Lingfield, Surrey.

Marbolino Co., Ltd. (509003). Regd. June 19, Winchester-hse., Victoria-sq., Birmingham, bldg. contractors, mnfrs. of and dlrs. in flooring, walling, etc. Nom. cap.: £2,000. Permt. dir. H. L. Collett, 69, Hinckley-rd., Nuneaton, Warwicks.

Sotosteel, Ltd. (509065). Regd. June 20, 676, Old Kent.-rd., Peckham, S.E.15, sheet and architectural metal work and light engineering, etc. Nom. cap.: £100. Permt. dir.: A. E. Stokes, The Rowans, 39, Manor-way, Petts Wood, Orpington, Kent.

J. M. Hill and Sons (Ampthill), Ltd. (509041). Regd. June 20, Arthur-st., Ampthill, Beds, bldrs., etc. Nom. cap.: £12,000. Dir.: V. R. Hill, 101, Park-av., Ruislip, Mdx. (ch.).

West Bromwich Building Supplies Co., Ltd. (509337). Regd. June 23, 383, Walsall-rd., West Bromwich, Staffs. Nom. cap.: £3,000. Dir.: T. W. Riley, 24, Wilbraham-rd., Walsall, Staffs.

TRADE NEWS

Firm's New London Office

W. A. Lloyd's Alloys, Ltd., manufacturers of Lloyd's Aluminium Ladders, announce the opening of their London office at Balfour House, 119, Finsbury Pavement, London, E.C.2. Mr. T. Etchells is in charge, and the telephone number is Monarch 7521. A range of products is on view.

Factory Moves to Wales

C. R. Averill, Ltd., graphite refiners and industrial paint manufacturers, recently transferred their factory and head office to Caergwrle, near Wrexham, from London. Production commenced on July 7. All the company's administrative, sales and technical staff have been transferred from London. The full address of the head office and works is Messrs. C. R. Averill, Ltd., Alyn Mills, Caergwrle, Wrexham, N. Wales. (Tel.: Caergwrle 14.) The company's new London office is at 52, Bedford-row, London, W.C.1, (Tel.: Holborn 5113.)

New Showroom

Opened in 1929, the object of the household service department of Charringtons, Tower-house, 40, Trinity-square, E.C.3, was to provide free advice to householders who found difficulty in managing their boilers or fires. Often the fuel which had been supplied was suspected, when in reality it was the actual appliance which was at fault. To get full benefit from solid fuel appliances they must be properly installed, and Charringtons have, therefore, opened a new showroom at 11, Henrietta-place, W.1. Here householders may see a wide range of fires, stoves, boilers and cookers, as well as obtain advice on such matters as roof and pipe insulation, descaling boilers and thermostatic control.

Versatile Roofing Material

A new material which is claimed to be suitable for roofing, including church roofing, ridging, flashing and guttering, is Nuralite, which is made by Cellactite and British Uralite, Ltd., and distributed by their associate company, Nuralite Sales, Ltd., Whitehall-place, Gravesend. Nuralite is based on asbestos and bitumen and comes in the form of sheets which are built up of closely knit laminations to adequate thickness and compressed. It can be cut and, with the aid of a blow lamp, welded and formed to a variety of shapes. A descriptive booklet on the material which describes the method of laying and the technique of working can be obtained from the company at the above address.

Paint Firm Joins Partnership

Four years ago Styrene Co-Polymers, Ltd., was formed jointly by Petrochemicals, Ltd., and Lewis Berger and Sons, Ltd., to operate the styrene co-polymer patents owned by the Lewis Berger organisation and to manufacture styrene co-polymers and alkyd resins from a styrene distillate fraction produced by Petrochemicals, Ltd., in their Catarole process for the cracking of petroleum, this being the only indigenous source of styrene in Great Britain. These original shareholders have now been joined by Pinchin, Johnson and Associates, Ltd. The association of these companies will make possible the wider development of styrene co-polymers in the paint manufacturing industry. These products are widely used now in the manufacture of both industrial and decorative finishes.

Paint Distribution Depot

A distribution depot at 10, Sycamore-street, Sheffield, 1, has been opened by Sissons Brothers and Co., Ltd., paint manufacturers. The telephone number is Sheffield 22402. Mr. S. Wright is manager of the new depot.

Attacking the Furniture Beetle

With reference to the paragraph which appeared in this column on July 25 under the above heading, the address to which enquiries concerning Rentokil products should be addressed was wrongly given. The firm's address is 23, Bedford-square, W.C.1.

Building Ironmongery

A catalogue of builders' ironmongery, compiled in loose leaf form, has been produced by the Avon Manufacturing (Warwick) Co., Ltd., Montague-road, Warwick. Illustrated in its pages are accessories for roofing and fencing, gutter brackets, wall ties, hinges and various mild-steel pressings. All items are numbered to facilitate reference when ordering.

Colour in Brickwork

A catalogue of facing bricks, reproduced in full colour, has been issued by the Ibstock Brick and Tile Co., Ltd., of Leicester. In accordance with their usual practice, the panels of bricks are reproduced without jointing to enable the architect to assess the true colour without the modification of a plain or toned joint. All types of special and moulded bricks can be produced and colours can be mixed to suit requirements.

Appliances for Catering Establishments

The Gas Council, 1, Grosvenor-place, S.W.1, have produced the fifth in a series of booklets on the commercial uses of gas. This is entitled "Cafés, Tea Rooms and Milk Bars," and besides describing the variety of gas-fired equipment available, it devotes special attention to the correct planning of the accommodation. Typical layouts for catering establishments are shown, as well as the most suitable dimensions for fittings.

Built-in Kitchen Equipment

A sink and a 4-cu.-ft. refrigerator are combined in one unit in the Arley built-in kitchen, manufactured by Witlor, Ltd., 107-109, Lancaster-street, Birmingham 4. The sink has an auxiliary hot water tap beneath for filling buckets and various cupboard units are obtainable which can be arranged to fit any size of kitchen.

Receder Pipe Dies

S. N. Bridges and Co., Ltd., Bridges-place, Parsons Green-lane, S.W.6, have extended the range of their tangential pipe dies to include receder actions. These operate on the tangential cutting principle, and allow constant re-grinding of the chasers. A ratchet movement enables pipes up to 4in. diameter to be threaded with one-hand movement, a double setting device permitting adjustments for accurate diameters. The receding action for taper threads is obtained through a simple gear train actuated by the ratchet movement, and parallel threads are cut simply by eliminating the gear train.

Precast Concrete Bolt Boxes

Engineers have put forward many suggestion to overcome the problems arising from the use of timber bolt boxes, the greatest of which is the stripping difficulty. Timber boxes have in fact been constructed on easy-strip principles, but they add considerably to the initial cost and their use by no means assures complete withdrawal with the timber undamaged. An alternative method is provided by the Leeson precast concrete bolt box system. Cut at the factory, the bolt boxes can be made up into units of any length. Grooves extend outside the box to form a key for the concrete surrounding; it is unnecessary to strip the box. Spiral grooves inside the bolt box provide a key for the final grout filling. A feature of this system is the locator which performs two functions; it maintains the bolt accurately centred within the box and ensures the grouting space is kept clear during the period before the actual fixing of structural steelwork, machinery, etc.

CODE OF PRACTICE

Bitumen Felt Roof Coverings

THE COUNCIL for Codes of Practice for Buildings has now issued in final form Code 144.101, "Bitumen Felt Roof Coverings." It was drawn up by a committee convened on behalf of the council by the Royal Institute of British Architects, and the present code is a revision of the draft previously issued for comment.

The code deals with the laying of bitumen felt roofing on sloping and horizontal roofs constructed of timber, concrete and similar materials. It gives information on accessory materials used in conjunction with the felt roofing. Recommendations for the preparation of the base, the provision of associated details, the selection of the type of felt and number of layers required for various climatic conditions are included. Advice is given on the technique of fixing the felt roofing and on surface finishes.

Diagrams illustrating the laying and arrangements for certain closely associated features such as gutters, drips and damp-proof courses are given.

The Code carries the usual warning that, in the present abnormal conditions, it may not be practicable to carry out all the recommendations. Copies may be obtained from the British Standards Institution, 24-28, Victoria-street, S.W.1, price 4s. post free.

THE SCOTTISH BUILDER

East Kilbride Appointments

THE following appointments to the East Kilbride Development Corporation are announced by the Secretary of State for Scotland:—

Sir Andrew M'Cance, chairman of the Mechanical Engineering Research Board and deputy chairman and joint managing director of Colvilles, Ltd., and Councillor T. R. Patterson, J.P., formerly convener of the Town Planning Committee of the Corporation of Glasgow, are to serve as members in the place of Mr. Sam Bunton, L.R.I.B.A., and Mr. Hugh T. MacCalman, B.L., formerly chairman of the Clyde Valley Regional Planning Advisory Committee, who are due to retire from the corporation on the completion of their term of office on August 8.

Housing Procedure

Part 7 of the Scottish Housing Handbook on "Housing Procedure" now issued (H.M.S.O., 1s.) lays down procedure based on the recommendations of the Scottish Local Government Manpower Committee, which were adopted in 1950 for an experimental year. It was decided at the end of the experimental year to retain the new procedure, with some minor improvements.

Attention is drawn in the new publication to one major change which has been introduced. Hitherto, housing authorities who proposed to accept house-building tenders have been required to submit the three lowest tenders for each trade for examination by the Department. The Secretary of State has decided that in the case of houses qualifying for the normal Exchequer subsidy this is no longer necessary, and that the work of local authorities and the Department can be simplified by requiring authorities to submit only a short statement of the essential information about the tenders they propose to accept. Where, under the new procedure, the tender prices of houses are higher than the Department feel able to approve, it will be for the local authority to decide how the cost can be reduced—by changes in specifications, the omission of inessential items, the inviting of fresh tenders or the adoption of a more economical design. The Department's technical officers will be glad to give advice in such cases if desired. In order to keep the Department closely in touch with prices, a sample of priced schedules for accepted tenders may from time to time be requested. The Secretary of State also reserves the right to ask for tenders and priced schedules in any case about which he wishes to have fuller information.

Royal Pew in St. Giles'

DURING her recent visit to Scotland Her Majesty the Queen approved plans by the Ministry of Works in Scotland for the Royal pew in St. Giles' Cathedral. The plans were shown to the Queen by Mr. David L. Macintyre, V.C., C.B.

The seat at present occupied by the Sovereign was installed in 1885 and has a heavy and high Victorian Gothic canopy, the actual seat being 3½ ft. long and 2½ ft. deep, upholstered in green and gold. The height of the canopy obstructs the light and it was at the suggestion of the Very Rev. Charles L. Warr, Dean of the Thistle and the Chapel Royal, that fresh plans were made more in accordance with modern ideas.

Blackhall's Multi-Storey Flats

APPROVAL for the erection of a block of multi-storey flats at Queensferry-road, Blackhall, has been secured by the Edinburgh Corporation Housing Committee. The original plan for the erection of the flats was turned down by the Secretary of State on account of cost and the amount of steel required, but an amended plan for the 42 three-apartment houses has now been approved by the Department of Health. The revised plan will result in a saving in cost per flat of between £200 and £250 and a saving in steel of about one ton per flat. The overall width of the buildings will be reduced by approximately three feet and ceiling heights of rooms reduced to 7 feet 9 inches. Another alteration will be the adoption of reinforced concrete bearing walls. Mr. Leslie Grahame-Thomson, R.S.A., F.R.I.B.A., 6, Ainslie-place, Edinburgh, is the architect.

Skyscrapers for Greenock

THE HOUSING SHORTAGE in Greenock is more acute than in most places. By way of trying to ease the situation, the Corporation has had sketch plans prepared and has been successful in getting Government approval to proceed with skyscraper blocks of houses which will be the first of such buildings to be erected in Greenock for over thirty years. The Department of Health has sanctioned the immediate erection of these at the Cottonmill-row site, while the Department has also agreed to the building of other such blocks on the site bounded by High-street, Inverkip, Tobago, and Sir Michael-streets.

Site preparation on the Cottonmill-row site is now going on and the erection of the houses, which the Government held up, mainly because of the amount of steel involved, is now expected to start some time this year, Greenock's Master of Works, Mr. Robert L. Rankine, having arranged to use concrete piling instead of steel columns.

At the central area site, which will also have a shopping centre, it is recommended that owing to the very difficult and complicated nature of this site, because of the extensive network of pipes, cables and sewers underneath, that the site preparation works should be carried out by the Corporation Direct Labour Department instead of letting this work to a private contractor. Quite a number of other housing schemes are in the offing, while plans for groups of houses and shops, which the Corporation propose to have erected at the Cumberland-road, the Westmorland-road and the Larkfield Area housing sites, have received the approval of the Housing Committee.

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Heat from the Soil

AN INGENIOUS DEVICE by which central heating for the home and similar low-grade heat for other purposes can be provided from the soil was shown at the Royal Technical College exhibition in Glasgow. Investigations into this source of heat have been carried out by Miss M. V. Griffith, of the British Electrical and Allied Industries Research Association.

The principle of the heat pump is somewhat similar to that of a refrigerator, working in reverse. In the common domestic refrigerator a small amount of heat is applied from an electrical source to produce a large degree of coldness. In the heat pump a small amount of electrical energy is used to cool the soil by means of chilled pipes. The heat thus extracted from the soil is boosted to a high temperature by the action of a compressor, and a supply of hot water is thus produced for only a fraction of the electrical energy that would be used by an immersion heater.

Installation costs are rather high at the moment. They run to about three times as high as those for traditional types of heaters. However, the apparatus is only at the prototype stage, and Miss Griffith believes that when production on a commercial scale begins costs might come down by half.

Materials on Site

THE HOUSING COMMITTEE of the Fife County Council have agreed to notify contractors that they are prepared to consider any case on its merits for the payment of up to the maximum of 70 per cent. of the value of materials delivered on site.

Dry Rot

THE FIFE COUNTY COUNCIL had spent up to June 15 last the sum of £211,610 on the eradication of dry rot in their properties, mainly schools.

NEW BUILDINGS

Busby.—Lanarkshire C.C. is to erect a scheme of 22 houses, for which the architect is Samuel MacColl (F.), County-chbrs., Beckford-st., Hamilton West.

Glasgow.—Plans to be prepared for the Scottish Youth Hostel Association, Ltd., for alterations and additions at Woodlands-terr., West End Park, for which the architect is J. Munro, 7, Bruntsfield-cres., The Meadows, Edinburgh.

Glasgow.—Corporation to erect a new clinic on a site at Netherplace-rd., Pollock, for which the architect is James MacMillan Riddet, M.Inst.C.E., Master of Works Offices, Municipal-bldgs., George-sq., Glasgow.

Holytown.—Lanarkshire C.C. to erect 46 houses, for which the architect is Samuel MacColl (F.), County-chbrs., Beckford-st., Hamilton.

Lanarkshire.—Plans to be prepared for scheme of extensions and additions to Harthill Post Office, for which the architects are George Arthur & Son (F. & A.), 12, Stirling-st., Graham-sq., Airdrie.

Lesmahagow.—Lanarkshire C.C. have plans in hand for 30 houses, for which the architect is Samuel MacColl (F.), County-chbrs., Beckford-st., Hamilton.

Newhouse.—Plans in hand for extensions and additions to the Newhouse Hotel, for which the architects are J. B. Souter, Son, & Main, 65, Almada-st., Westend, Hamilton.

The Builder

FUTURE CONSTRUCTION

Full details of Public Appointments open will be found in the Advertisement pages of this and previous issues.

CONTRACTS OPEN

For some contracts still open but not included in this list see previous issues. Those with an asterisk are advertised in this number. The dates at the heads of paragraphs are those for the submission of tenders; a dagger (†) denotes closing date for applications; the name and address at the end refer to the person from whom particulars may be obtained.

BUILDING

AUGUST 12.

*†**Thurrock U.D.C.**—(a) Erection of eight aged persons' bungalows; (b) construction of 80 yds. concrete carriageway and sewers. E. & S., Council Offices, Palmer's-ave., Grays. Dep. £2 2s.

AUGUST 14.

*†**Billericay U.D.C.**—Erection of 24 aged persons' bungalows at Wickford housing estate and 8 aged persons' bungalows at Vange housing estate. B.S., Council Offices, High-st. Dep. £2 2s.

*†**Calne and Chippenham R.D.C.**—Erection of 10 houses and site works at Langley Burrell. Edwards & Webster, architects, 10, St. Mary-st., Chippenham Dep. £2 2s.

*†**Surrey C.C.**—Single-storey buildings in hutted construction in 10 schools. County Architect, Kingston.

*†**Surrey C.C.**—Erection of 9 "Unit" classrooms on five sites. County A., County Hall, Kingston-on-Thames.

AUGUST 15

*†**Enfield U.D.C.**—Erection of 36 two-person and single-person dwellings on the Lyndhurst-gdns. site. E. & S., 7, Little Park-gdns., Enfield. Dep. £2 2s. Tenders by September 16.

*†**Prescot U.D.C.**—Erection of 48 houses on Shaw-la. housing site. Gornall, Kelly & Partners, architects, 8, Hardshaw-st., St. Helens. Dep. £2 2s. Tenders by September 8.

*†**W. Ham B.C.**—Erection of 9 flats, Church-st.-passage, E.15. Boro' A., 70, West Ham-la., E.15. Dep. £2 2s

AUGUST 16.

*†**Brierley Hill U.D.C.**—Erection of branch library in Market-st., Kingswinford. A., Council Offices, Moor-st. Dep. £5 5s

AUGUST 18

*†**Birmingham City C.**—Erection of 72 flats, Turves Green, Hawkesley Farm estate, West Heath. City E. & S., Birmingham.

*†**Old Fletton U.D.C.**—42 houses, Chapel-st., Stanground. Ruddle and Wilkinson, architects, Long Causeway-chbrs., Peterborough. Dep. £2 2s.

*†**Wrexham B.C.**—Erection of six shops and six flats at Queen's Park estate. B.S., 31, Chester-st. Dep. £2 2s.

AUGUST 20.

*†**Deal Boro'.**—68 houses, North Deal housing estate. B.E. Dep. £2 2s. Tenders by September 15.

AUGUST 21.

*†**East Ham B.C.**—Erection of 88 houses at Ingrave, near Brentwood. Chief Housing Officer. Dep. £5 5s.

*†**E. Riding of Yorks C.C.**—Supply and laying of 3,500 yd. semastic tile flooring at Rosebery-ave. C.P. school, Bridlington. County A., County Hall Beverley. Dep. £2 2s.

AUGUST 22.

*†**Gold Coast University College.**—Erection of permanent buildings and site works at Lagon-hill, nr. Accra. Harrison Barnes & Hubbard, 48, Russell-sq., W.C.1.

*†**Huntingdonshire C.C.**—Erection of police house at Somersham. County A., Huntingdon.

*†**Noble's (I.O.M.) Hospital.**—Erection of a new children's wing and twin operating theatre unit on the hospital site in Westmoreland-rd., Douglas, Isle of Man. Secretary, Noble's (I.O.M.) Hospital, Douglas, Isle of Man.

*†**Malden and Coombe B.C.**—Raising of chimney stacks to 4 blocks of 3-storey flats at Newhouse Farm, South-la. B.E., Municipal Offices, New Malden.

*†**Sunderland B.C.**—Supply of wooden windows and doors for 387 houses, as well as ironmongery, san. fittings, kitchen fitments, and supply and laying of asphalte flooring and tiling for 549 houses. Boro' A., Grange-house, Stockton-rd. Dep. £2 2s.

AUGUST 23.

*†**Stepney B.C.**—Repairs to 53, Cephas-ave.; 52, Huddart-st.; 106, Exmouth-st.; and 265 and 267 Bancroft-rd. Chief Tech. Officer for War Damage, 227-33, Commercial-rd., E.1. Dep. £2 2s.

AUGUST 25.

*†**Southend B.C.**—Supply and erection of two greenhouses at the corporation parks depts., nursery, Wakering-rd. Dep. £2.

AUGUST 26.

*†**Essex C.C.**—Erection of a house, water supply and alterations to farm buildings at Harris' Farm, Gt. Bromley estate, nr. Colchester. County Land Agent and Valuer, 69, Duke-st.

*†**Gravesend B.C.**—Control centre, Woodlands Park. B.E. & S., 6, Woodville-terr. Dep. £2 2s.

*†**Skegness U.D.C.**—Erection of 20 houses at Sundial estate, Tarran-way West. S., Town Hall. Dep. £3 3s

AUGUST 27.

*†**Wandsworth B.C.**—Erection of 152 dwellings at Roupell Park estate, Brixton Hill, S.W.2. T.C., Town Hall.

AUGUST 29.

*†**Brentwood U.D.C.**—Erection of 38 flats at Three Arch Bridge housing estate. R. Lone, F., 15, Newsq., Lincoln's Inn, W.C.2.

*†**E. Riding of Yorkshire C.C.**—Erection of principal's house and 3 cottages at Institute of Agriculture, Bishop Burton. County A., County Hall, Beverley. Dep. £2 2s.

*†**Hampshire C.C.**—Erection of an ambulance station at Privett-rd., Gosport. B.E. & S., Gosport. Dep. £1 1s.

AUGUST 30.

*†**Wood Green B.C.**—Redecoration of 128 houses. B.E. & S. Dep. £1 1s.

SEPTEMBER 2.

*†**Brighton C.B.**—Erection of 13 old people's homes on Manor Farm estate. B.E. & S., 26-30, King's-rd. Dep. £2 2s.

*†**Camberwell B.C.**—Erection of six flats at 61, Stuart rd. B.E. & S., Council Offices. Dep. £2 2s.

SEPTEMBER 3.

*†**Guildford R.D.C.**—Erection of four dwellings, Westwood-la., Normandy. J. W. Wilton, E. & S. Dep. £2 2s.

SEPTEMBER 5.

*†**Yarmouth B.C.**—Erection of 137 flats and maisonettes in Reconstruction Area No. 1, Middlegate-st. B.E., 8a, Queen-st.

SEPTEMBER 9.

*†**Brighton C.B.**—Erection of 16 police houses on Hollingdean estate. B.E. & S., 26-30, King's-rd. Dep. £2 2s.

SEPTEMBER 10.

*†**Camberwell B.C.**—Erection of 6 flats at 59, Hollydale-rd. B.E. & S. Dep. £2 2s.

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*†**Petersfield R.D.C.**—Eight bungalows and 34 houses, Gunns Farm estate, Bramshott. E. & S. Dep. £2 2s.

SEPTEMBER 11.

*†**Tipton B.C.**—Erection of 66 houses, Park-la., West estate. Hsg. A. Dep. £3 3s.

SEPTEMBER 12.

*†**Durham City C.**—Erection of 36 flats on Sunderland-rd. estate. City E., Town Hall. Dep. £2 2s.

OCTOBER 31.

*†**Richmond (Surrey) B.C.**—Tenders invited for building lease in respect of site formerly occupied by 10-18, Queen's-rd. Site available for approx. 40 flats. Clifford Heyworth, T.C. Dep. £5 5s.

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AUGUST 14.

*†**Southampton C.B.**—Internal redecorations and repairs, Central secondary school, Argyle-rd. Town Clerk. Dep. £1.

AUGUST 18.

*†**Kidsgrove U.D.C.**—Supply of grates and electrical installations in connection with the erection of 14 houses and 8 bungalows at Link-rd. scheme. A., Town Hall. Dep. £2 2s.

SEPTEMBER 3.

*†**Stepney B.C.**—Five electric passenger lifts, Cornwall-st. housing site. B.E. & S.

ROADS, SEWERAGE AND WATER WORKS

AUGUST 16.

*†**Prestwich Hospital Man. Comm.**—Laying out ward garden and resurfacing adjacent-rd. H. Winters, Secretary Prestwich Hospital, near Manchester.

AUGUST 20.

*†**Devizes R.D.C.**—Main site works, including sewage disposal plant, for 16 houses at Allcannings. Edwards & Webster, architects, 10, St. Mary-st., Chippenham. Dep. £1.

NO DATE.

*†**Cwmbran Development Corporation.**—List of approved contractors for works in connection with drainage and roads, etc. Chief E., Victoria-st.

GENERAL BUILDING WORK

(LONDON)

Battersea.—FLATS.—Housing Comm. have approved provisionally a scheme of the Borough Engineer and Surveyor for the erection of two blocks of four flats on the sites of Nos. 1-15, Salcott-rd.

Bromley.—CHURCH.—Royce, Butterfield & Roberts, AA.R.I.B.A., 6, Avery-row, W.1, are architects for rebuilding the Church of the Good Shepherd, Moorside-rd.

Camberwell.—ACQUISITION OF SITES.—B.C. are to acquire the following sites on which they propose to erect people's houses:—Nos. 76, Shawbury-rd.; 77, Henslowe-rd., 85, Grenard-rd.; 96 and 97, Bellenden-rd.; 98, Choumert-gr.; 99, Buchan-rd., 101, Surrey-rd.; and 102, Landcroft-rd.

Caterham and Warlingham.—B.C. propose to erect 38 houses and 8 flats on Hamsey-green estate, site No. 53.

Chelsea.—FLATS.—Proposals by Armstrong & MacManus. F/F.R.I.B.A., 10, Lower Grosvenor-place, for erection of 12 flats and 6 garages for B.C. at 105-106, Cheyne-walk have been approved by B.C.

Dagenham.—HOUSING.—Subject to the submission of detailed plans, the T.P. Comm. have given consent to Meredith & Partners, architects, 6, Victoria House, Goodmayes, for the use of a site in Felhurst-cres. for housing purposes.

Hendon.—FLATS.—Land and Property Trust Co., 32, Shaftesbury-ave., W.1, have had their application approved by the B.C. for the erection of 12 flats at the junction of Finchley-rd. and Addisonway, Golders Green, N.W.11.

Hendon.—HOUSES.—B.C. has approved an application by W. F. Thorpe, F.R.I.C.S., 135, The Broadway, Mill Hill, N.W.7, on behalf of W. Reed & Co., Ltd., for the erection of 10 houses at Alders-cl., Edgware, and one on the corner of Hale-la. and Farm-rd., Edgware.

Hendon.—STORE BUILDING.—Bertie Crew & Kay, L.R.I.B.A., 1, Green-la., N.W.4, have applied to erect a store building at the British Railway Goods Yard, The Broadway, Mill Hill, N.W.7, for Notley, Ltd.

Hendon.—ALTERATIONS TO FACTORY.—B.C. have approved an application by Bertie Crew & Kay, L.R.I.B.A., 1, Green-la., N.W.4, for alterations to the factory of Charles Wright, Ltd., at Forumside, Edgware.

Hendon.—CONVERSION AND ALTERATION.—Development permission has been granted to Bertie Crew & Kay, L.R.I.B.A., 1, Green-la., N.W.4, for the proposed conversion of stables into a bungalow on vacant land formerly belonging to "Westhorpe," Tenterden-gr., N.W.4, and for the proposed altera-

tions to house to form a self-contained flat at 49, Sherwood-rd., N.W.4.

Hendon.—GENERATING PLANT HOUSE.—B.C. have approved an application by Stanley Peach & Partners, F.R.I.B.A., 28, Eccleston-sq., S.W.1, for the erection of a generating plant house and other works at 82-106, Cricklewood-la., N.W.2, for Fanfold, Ltd.

Hendon.—CONVERSION.—Approval has been given by the B.C. to an application of Aslan & Freeman, AA.R.I.B.A., A.M.T.P.I., 76, Queen's-gate, S.W.7,, for the conversion of "White Lodge," The Vale, Golders Green, N.W.11, into two flats.

Hendon.—SCHOOL.—The Middlesex County Architect has prepared sketch plans for the proposed prim. sch. in Courtlands-ave.

St. Marylebone.—DWELLINGS.—Atlas Assurance Co. are to receive a 30-unit licence from B.C. to develop Eamont-court at an estimated cost of £70.000.

St. Marylebone.—DEVELOPMENT.—B.C. are to appoint Welch & Lander, 38, Gloucester-pl., W.1, as architects for a housing scheme to be erected at 147-149, Gloucester-pl.

St. Marylebone.—DWELLINGS.—A 6-unit licence is to be granted by B.C. to Morrison & Rose, architects, 8, Park-st., W.1, to develop the site of 27, Hamilton-ter. at an estimated cost of £14,500.

St. Marylebone.—DWELLINGS.—B.C. are to grant a 16-unit licence to J. Fielden Dixon, A.R.I.B.A., 76, Holmesdale-rd., Teddington, to develop the site of 49-56, Prince Albert-rd. at an estimated cost of £40,000.

Shoreditch.—FLATS.—Approval has been given by B.C. to plans prepared by B.E. & S. for 5 flats and 18 maisonettes to be erected on St. Mary's estate.

Shoreditch.—MAISONETTES.—B.C. have approved plans prepared by B.E. & S. for 8 maisonettes and 4 flats which are to be erected on Kingsland estate.

Stoke Newington.—FLATS.—Subject to L.C.C. approval, B.C. are to erect 40 flats at Milton-gdns. at a cost of £83,570.

Wimbledon.—HOUSING ESTATE.—Surrey Town and Country Planning Com. have approved proposals for completion of development of West Side housing estate by erection of 31 houses and a cricket pavilion.

(PROVINCIAL)

Barnard Castle.—R.D.C. to build eight bungalows for old people and nurses' house at Cockfield. Architect, J. Lawton, Galgate, Barnard Castle.

Barrow-in-Furness.—Adaptation of Wennington Hall as a special sch., for E.C. Architects, C. B. Pearson & Son, 18, Dalton-sq., Lancaster.

Billingham-on-Tees.—U.D.C. approved plans for erection of building for the manufacture of nylon moulding powder for Imperial Chemical Industries, Ltd.

Bingham.—R.D.C. to negotiate for erection of further 12 houses at Keyworth.

Birkenhead.—Corpn. has authorised Mr. H. J. Rowse, the architect, to make preparations for a minimum of 400 additional houses on the Woodchurch estate for next year.

Boldon (Co. Durham).—County Planning Officer has approved U.D.C.'s layout for 74 houses on Wellands-la. site.

Bradford.—T.C. to negotiate with G. Wimpey & Co., Ltd., London, for 209 houses at Thorpe estate and with M. Harrison & Co. (Leeds), Ltd., Post Hill Quarries, Farnley, Leeds, for 120 houses at Allerton estate and 60 at Eccleshill South estate.

Cheadle (Staffs).—N.C.B. to place contracts for erection of 300 to 400 houses.

Chester.—Ministry has agreed to the draft plan for the erection of 11 shops with maisonettes over at Blacon. Tenders are to be invited.

Chester.—T.C. to negotiate with Thos. Warrington & Sons, Ltd., Park-dr., Hoole, Cheshire, for erection of further 80 houses.

Chester-le-Street.—R.D.C. is negotiating with William Leech, Ltd., Clayton-st., Newcastle-on-Tyne, for erection of 74 houses at Sacriston, 38 at Kibblesworth, and 26 at Pelton. R.D.C. Architect, F. Bowman, Estate Office, Birtley, Co. Durham.

Consett.—U.D.C. to develop a new housing estate in Gloucester-rd., Delves-la. Council's A., J. J. Eltringham, Derwent-st., Blackhill, Co. Durham.

Corby.—Northants C.C. propose new diagnostic health centre; preparing plans for new block of buildings in town centre, including new weights office.

Coventry.—T.C. to erect two blocks of flats at Willenhall Neighbourhood unit (Architects A. H. Gardner and Partners, Coventry); also 28 flats and 16 houses at Partridge Croft/Frankland-rd.—Appointed J. E. C. Powell, 8, Queens-rd., Coventry, as Q.S. for 10 shops and maisonettes at Tile Hill Neighbourhood Unit (South).

Daventry.—R.D.C. propose eight houses at Flore.—Ministry to grant further allocation of 14 houses for erection at West Haddon, on completion of site works.

Derbyshire.—C.C. received approval for 10 firemen's houses at Chesterfield-rd., Matlock.

Devizes.—R.D.C. propose to build 10 houses at the Lye, Seend; 12 at the Pound, Bromham; six at Market-pl., Market Lavington; 20 at Wheatsheaf site, West Lavington; 10 at Minty's-top, Bromham; and six houses at Chandler's-la., Bishops Cannings.

Dukinfield.—T.C. recommended to approve plans for shops and flats at Yew Tree-la. site No. 1.

Durham.—Durham Coal Board to erect pithead baths at Houghton Meadows Colliery to plans by N.C.B. Architects' Dept., Ashfield Tower, Gosforth, Newcastle-on-Tyne.—Fennell & Co., Bridge End-chbrs., Chester-le-Street, architects, have prepared plans for six houses at Moor-cres., Belmont.—R.D.C. seeking loan sanction for £103,006 for 60 houses at Sherburn and 28 at Witton Gilbert.—R.D.C.'s housing programme for next year will include 80-90 houses at Bowburn; 60 at Kelloe; 58 at Sherburn; 20-30 at Belmont; 40 at Leamside; 44 at Framwellgate Moor, and 16 at Bearpark. Plans by the Architect, Byland Lodge, Durham.

Durham.—C.C. Children's Com. is planning the provision of children's homes at Houghton, Tow Law, Bowburn and Peterlee, and residential nursery schools at Penshaw, Hartburn Lodge and Stockton. County A., G. R. Clayton, Court-la., Durham.

Halifax.—T.C. intend to include in this year's programme 200 houses at Mixenden and 12 flats at Illingworth.

Halifax.—E.C. to invite tenders for Ling Bob County Inf. Sch.

"THE BUILDER" PRICES

CEMENT IN BAGS

A further reduction in cement prices was announced recently by the Cement Makers' Federation. With effect from August 5, the price of cement packed in paper bags was reduced by 2s. 9d. a ton. Cement delivered in bulk or in returnable packages is not affected.

COPPER STABILISED

The Ministry of Materials has now concluded negotiations with its main Commonwealth suppliers on the price of copper from August 1, 1952.

The arrangements made provide for a fixed price which will remain in force for a minimum period of six weeks and thereafter unless, owing to changed circumstances, any of the parties give notice of desire to re-negotiate.

In view of these arrangements, the Ministry has been able to reduce its selling price by £2 from £287 to £285 per ton delivered consumers' works. Discounts and premiums remain unchanged.

BRASS AND COPPER TUBES

In consequence of the reduction in the price of copper announced by the Ministry of Materials,the Brass and Copper Tube Association has reduced the basis prices of tubes as follows:—

		Basis Price. per lb.
Copper tubes	reduced by ½d. =	32½d.
Brass tubes	,, ,, ½d. =	27½d.
Copper-nickel tubes 70/30	,, ,, ½d. =	38d.

The list prices of condenser ferrules are also reduced as follows:—

	per lb.
Brass and aluminium brass ferrules reduced by	½d.
Copper-nickel ferrules 70/30 ,,	½d.

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Leek.—U.D.C. approved revised plans for cattle market at Junction-rd. site (stage 1). Est. cost, £25,000.

Liverpool.—Highways Com. have approved detailed layouts of 15 flats at Torr-st., 15 flats at Penrith-st., 24 flats at Upper Pitt-st. and Gt. George-st., and 24 flats at Raffles-st. and Duncan-st., for B.C.

Liverpool.—Reg. Hospital Brd. appointed H. W. Langdon and Every, 13, Hackin Hey, Liverpool, as Q.S. for phase 1 of adaptations at Park Hospital.

Middlesbrough.—M. of E. has approved E.C.'s revised sketch plans for proposed Middle Beck No. 1 County Sec. Sch.

Northants.—E.C. approved the spending of £15,000 on extensions to Towcester County Mod. Sch. and £161,568 for Grammar Sch. at Corby.

Northumberland.—E.C.'s building programme for 1953/4 will include two modern schools at Whitley Bay costing £134,640 each and the completion of Morpeth Prim. Sch. at £30,240. The reserve list comprises modern schools at Bedlington and Newburn at £122,400 each. County A., C. C. Brown, County Hall, Newcastle-on-Tyne.

Nottingham.—T.C. seek loan of £11,200 for additional accommodation at Queen's Walk Jnr. Sch.

Overton (Lancs).—P.C. Council propose erection of new church sch. at £21,000.

Penrith.—U.D.C. to invite tenders for 24 houses at Scaws estate.

Ramsbottom.—U.D.C. approved erection of police houses at Newcombe-rd. for Lancs C.C.

Richmond (Yorks).—T.C. intend to erect 44 houses at Gilling-rd.

Rothbury.—R.D.C. is considering a scheme for 20 or 30 houses at Beggars Rigg.

Seaham.—R. Cowan, 20, Finkle-st., Stockton, prepared plans for alterations to "Blandford Arms" for Vaux and Associated Breweries.

Sedgley.—U.D.C. propose 56 houses at Stickley-la. extension. (Architect, A. Young, 188, High-st., Dudley.)

Sheffield.—Reg. Hospital Brd. to prepare sketch plans for improvement of accommodation for T.B. patients at Pastures Hospital, Mickleover.

Sheffield.—E.C. received approval for following 1953/4 schools programme:—Hinde House Sec. and Silverdale Sec. (£179,500 each); St. Wilfrid's R.C. Inf. Jnr. (£43,000); extensions King Edward VII (£30,000); King Egbert Technical (£225,000); Greenhill Bradway Inf. Jnr. (£86,000); Newfield Boys' and Newfield Girls' Grammar (£359,000); Nether Edge Grammar (£215,000); Chaucer Sec. (£179,500); completion of Beaver Hill (£59,500); East Hill Special Prim. (£30,000).

Shipley.—U.D.C. received approval for development of land at Coach-rd., Baildon, for housing purposes.

Stanley (Co. Durham).—U.D.C. approved plans for additions to ambulance stn., Lilac-cres., Burnopfield, for the Trustees (plans by U.D.C. Surveyor's Dept.); and shop, warehouse, etc., at Leazes, Burnopfield, for Burnopfield Co-op. Society (architect, J. J. Eltringham, Derwent-st., Blackhill).

Stockport.—B.C. approved plans for:—R.C. church and presbytery, Stockport-rd. and Kensington-rd., for R.C. Diocese.—Industrial building at junction of Moss-st. and Kingston-st. for Macfarlane Harrison, Ltd.—Layout for 75 houses at Broadstone Hall estate, for Cormack & Co. (Lancs), Ltd.—Light engineering building at Bird Hall-la., for H. & F. Aldred, Ltd.—B.C. propose new library at Stockport-rd., Cheadle Heath; seek permission to acquire land for first portion of omnibus station at Daws Bank; surveyor to prepare detailed plans for 28 houses at Nelstrop-rd.; propose purchase and adaptation of "The Stocks," Whaley Bridge, as home for aged, at £11,830.

Stockton-on-Tees.—R.D.C. is to let contract for six houses at Dalton Piercey.

Stockton-on-Tees.—Working drawings are to be prepared for a proposed outpatients' dept. at Stockton Children's Hospital, for Newcastle Hospital Brd. The Board's Chief A. is P. H. Knighton.

Stockton-on-Tees.—T.C. is considering erection of non-traditional houses at Green-la. and Albany-rd.—E.C. to obtain tenders for additions to Hartburn Prim. Sch.—T.C. plans housing developments at High Newham and Piper Knowle Farm.—M. Trotter, High-st., Stockton, is architect for alterations to "Castle and Anchor" hotel, Church-rd., for Vaux & Son.—N. Stonehouse, builder, Bridge-rd., Thornaby, is to erect 10 houses in Harlsey-gr.—Quayside Engineering Co., Ltd., are to rebuild part of their premises in Brougham-st.—T.C. approved plan for factory and office at Dog Hill Farm for C. O. Shumm.

Sunderland.—S. W. Milburn & Partners, 9, Esplanade, Sunderland, are architects for alterations to the X-ray and casualty departments at Sunderland Royal Infirmary.

Tipton.—Staffordshire C.C. has approved Ed. Com. scheme for erection of "multilateral" school in Tividale, Tipton, to cost £240,000.

Thornaby-on-Tees.—P. Brown, Boro' E., has prepared a layout plan for 36 houses on Diamond-rd. estate.

Wakefield.—T.C. to negotiate tenders for 20 flats

at Flanshaw and 32 at Gill Sike.—Ministry approved erection of sec. sch. at Eastmoor estate in 1953/4 programme and Inf. Sch. at Chantry-rd. as reserve.

Wallasey.—B.C. to negotiate with J. Tate & Sons, 241, Wallasey Village, for 22 houses at Leasowe-rd. and Reeds-la.

Wallsend.—C.W.S. Architects' Dept., 90, Westmorland-rd., Newcastle-on-Tyne, have prepared plans for garage and milk depot in West-st., for Wallsend Industrial Co-op. Society.

Wednesbury.—T.C. seek layout approval for additional 90 houses at Golf Course estate.

Wellingborough.—C.C. propose adaptation of "Westlands" as home for aged.

Whaley Bridge.—U.D.C. to invite tenders for houses at Orchards Fields site; to consider erection of shops, Elnor-la. estate.

Wigan.—R.D.C. approved plans for new buildings at North Quarry, for Appley Bridge Quarries, Ltd.; to erect further 36 houses at Gathurst-la., Shevington.

Wolverhampton.—E.C.'s 1953/4 schools programme:—Warstones (West Sec.) and Wobaston Sec. (£179,520 each).

Worcs.—E.C. propose following new schools in 1953/4 programme:—Sec. Moderns at Droitwich, Oldbury, and Stourport (2nd. instalment); Jnr. Schools at Norton, Stourbridge and Charford; Infs. at Birchen Coppice, Kidderminster.

TENDERS

* Denotes *accepted*.
† Denotes *provisionally accepted*.
‡ Denotes *recommended for acceptance*.
§ Denotes *accepted subject to modification*.
¶ Denotes *accepted by H.M. Government Departments*.

Battersea.—Erection of 12 flats on the site of St. Mathew's Church, Rush Hill-rd.: *E. H. Smith (Croydon), Ltd., Wellesley-rd., Croydon, £20,770.

Bideford.—Erection of 10 houses at Pynes-la. estate, contract 4, for T.C. H. J. Denne, A.M.I.C.E., A.M.I.Mun.E., A.R.I.C.S., Boro' S. Municipal-bldgs.: ‡E. Cox & Lock, King-st., Bideford., £12,750.

Bingley.—20 houses, for U.D.C.: *W. Heaton (Builders), Ltd., Oak-ave., Bingley, £24,386.

Birmingham.—Works, for Regional Hospital Board Conversion of "The Beeches," Solihull, as residential accommodation: *Lewis Gorton & Son, Ltd., 60, Alfred-st., Birmingham, £2,944. Provision of pathological facilities at Solihull Hospital: *Colman & Parkin, Ltd., £2,828. Plastic surgery unit at Wordsley Hospital, Stourbridge: *J. Hickman & Son (Brierley Hill), Ltd., Brierley Hill, £10,786.

Birmingham.—Erection of sec. mod. sch. at Springfield-rd., Moseley, for E.C.: *W. J. Whittall & Son, Ltd., 132, Lancaster-st., Birmingham, £164,199.

Boldon.—Erection of 36 houses at West Boldon, for U.D.C. J. T. Edmondson, Surveyor: *W. D. & R. Allison, Whitburn, £48,020 (subject to Ministry approval).

Bradford.—22 houses at Netherlands-ave., for T.C.: *C. Parker (Bradford), Ltd., 808/810, Gt. Horton-rd., Bradford, £31,548.

Bridgwater.—Erection of (a) 14 houses at Sydenham estate; (b) 18 houses at Penlea-ave.; (c) 12 houses at Bath-rd. and Fairfax-rd., for B.C.: (a) *H. W. Pollard & Sons, Monmouth-st., Bridgwater, £17,369; (b) *J. Standerwick & Sons, Ltd., Taunton-rd., Bridgwater, £22,463; (c) *H. W. Pollard & Sons, Monmouth-st., Bridgwater, £15,206.

Caldercruix.—Erection of new Catholic school, for Lanarkshire C.C. William Watt (F.), architect, County Offices, Motherwell-Wishaw: Excavation, brick, building and allied works. *Robert Paterson & Sons, Ltd., Airdrie, £22,998; pre-fab. superstructure and allied works, *William Bain & Co., Ltd., Coatbridge, £26,950. (Other contracts let.)

Camberwell.—Erection of 24 dwellings and 6 shops on permanent housing site No. 51 (Kimberley-av./Evelina-rd.):

Patrick & Moody, Ltd., S.W.9.	£80,041
J. F. & E. Nicholls, Ltd., S.E.15	72,412
Macdonald Richardson & Co., Ltd., E.C.4	70,925
S. Varney & Co., Ltd., S.E.24	70,853
W. J. Simms, Sons & Cooke, Ltd., W.1. ...	67,320
Borough Engineer & Surveyor	67,290
Walker (Tooting), Ltd., Hackbridge, Surrey	67,150
Soar & Co., Ltd., S.E.16	66,995
W. W. Rowney & Co., Ltd., S.E.1.	66,411
Clarke, Barton & Co., Ltd., Belmont, Surrey	62,413
*L. Fowler & Co. (Builders), S.E.6	61,975

Architects' approximate estimate, £56,000.

Chesterfield.—Erection of Newbold jun. sch., for E.C.: *C. E. Gaunt & Sons, Ltd., West Bars, Chesterfield.

Coventry.—New prim. sch. at Stoke Aldermoor, for E.C.: *Gilbert Ash, Ltd., London. Components by Bristol Aeroplane Co., Ltd., Bristol.

Coventry.—Houses, for T.C.: Willenhall Neighbourhood Unit, (41) *G. W. Deeley, Ltd., 27, Avon-st., Upper Stoke, £53,967; (43) *T. Bates & Son, Ltd., 53, Warwick-st., £56,689 (15) *H. Lee Bros., Ltd., Bolton Works, The Crescent, Birmingham, £19,735. Bell Green Neighbourhood Unit: 24 flats and 21 flats, *W. H. Jones & Son, Ltd., Lockhurst-la., £56,790 and £28,800; 2 flats, *Coltman & Son, 27, Castle-st., £2,666. Manor House estate: 8 bungalows, 13 houses and 18 flats, *Coventry & District Building Trades Employers, 11, Eaton-rd., £44,535; 24 houses and 6 garages at Halls Farm estate: *M. Clarke & Sons, Ltd., 43, Coronation-rd., £31,764.

Darlington.—Adaptations and improvements to the Inland Revenue offices, Northgate, Darlington: *Rodgers Bros., Valley-st. North, Darlington.

Darwen.—40 flats and 60 houses at Birch Hall site, for B.C.: *Gregory (Builders & Contractors), Ltd., Worthing, £138,397.

Daventry.—Houses, for T.C.: (6) *Midland Builders (Daventry), Ltd., Ashby-rd., Daventry, £7,749; (6) *Branson & Jones, Ltd., 36/38, Milton-st., Northampton, £7,930.

Dover.—Erection of eight houses at Napier-rd., Buckland Valley estate, for B.C. Boro' E., Brook House: *S. C. Ward, Ltd., 37a, Newington-rd., Ramsgate, Kent, £10,911.

Durham.—Erection of pithead baths at Tursdale Colliery, Durham: *George Henderson, Boldon-la., East Boldon, Co. Durham.

Glasgow.—Alterations and additions to the bakery of Walter Grieve MacAulay, Ltd., at Kerr-st., Calton. John Wingate (F.), architect, 5, Oswald-st., Glasgow: *Peter MacConnell, Ltd., Paisley, Renfrewshire.

Glasgow.—Erection of a scheme of shops at Moraine-dr. and Moraine-ave. Norman MacFadzean (A.), architect, 127, West Regent-st., Glasgow: *John Lawrence (Glasgow), Ltd., Glasgow.

Greenwich.—Conversion into 10 shops of the basements and ground floors of 211-229 (odd), Charlton-rd.:—

J. Jarvis & Sons, Ltd.	£17,463
Walter Gladding & Co., Ltd.	16,825
Richard Costain, Ltd.	15,996
W. J. Eaglen, Ltd.	14,835
*Whyatt (Builders), Ltd.	14,397

Harrogate.—104 houses at Bilton estate, for T.C.: *Geo. Wimpey & Co., Ltd., London, £147,719.

Hebburn.—Erection of 44 houses at Campbell Park No. 1 housing site extension, for U.D.C. E. & S. Council Offices, Argyle-st. William Leech (Builders), Ltd., Clayton-st., Newcastle upon-Tyne, £56,578.

Huddersfield.—Erection of Rawsthorpe sec. mod. sch., for E.C.: *John Radcliffe & Sons, Ltd., St. Johns-rd., Huddersfield.

Islington.—49 flats and maisonettes on three sites in Marquess and Clephane-rds., for B.C.: *W. H. Gaze & Sons, Ltd., 19/23, High-st., Kingston-upon-Thames, £113,942, and not A. T. Rowley (London), Ltd., as given in our issue of July 25.

Lanarkshire.—Erection of 178 brick houses on the Bankhead site of Tannockside. Samuel MacColl (F.), architect, County-chbrs., Beckford-st., Hamilton: *The Weir Housing Corporation, Ltd., Coatbridge, £313,018.

Lanarkshire.—Erection of 30 houses on the Bankhead site, Lesmahagow. Samuel MacColl (F.), architect, County-chbrs., Beckford-st., Hamilton: *Blackburn (Dumbarton), Ltd., Dumbarton, £51,434.

Lanarkshire.—Erection of 58 houses on the Greystons site at Shotts. Samuel MacColl (F.), architect, County-chbrs., Beckford-st., Hamilton: *Blackburn (Dumbarton), Ltd., Dumbarton, £96,488.

Leek.—30 houses at Brown Edge site, for R.D.C.: *Frost & Co. (Builders & Contractors), Ltd., Highla., Brown Edge, Stoke-on-Trent, £40,773.

Liverpool.—50 houses, for Corpn.: *Lloyd & Cross, £80,875; 50 houses, *William Thornton, £78,300.

Liverpool.—24 houses, Fairview-rd., for Corpn.: *Lloyd & Cross.

Liverpool.—Works, for Regional Hospital Board: Adaptations to operating theatre at Aintree Hospital, *C. & G. L. Desoer, Ltd., 4, Marathon-st., Liverpool, £10,390; alterations and additions to X-ray dept. at Walton Hospital, *Wm. Moss & Sons, Ltd., Roscoe-st., Liverpool, £6,473.

¶London (Admiralty).—Particulars of contracts placed by Civil Engineer-in-Chief's Dept., Admiralty.—*Ford*: Construction of safety equipment building, Warings (Contractors), Ltd., London-rd., Hilsea, Portsmouth.

¶London (M.O.W.).—Contracts placed by M.O.W. during week ended July 26.

Kinross: Tractor Service Depot, Tufhills, Kinross, alterations and repairs, J. R. and A. Adam, Ltd., 35, North-st., Lochgelly. *Lancashire*: P.O. Automatic Telephone Exchange, Lark-la., Parkfield-rd., Sefton Park, Liverpool, 17, construction of lateral extension, C. and G. L. Desoer, Ltd., 2 and 4, Marathon-st., Liverpool, 6. *London*: Regent's Park, N.W., supply, delivery and erection of three greenhouses, Duncan Tucker (Tottenham), Ltd., Lawrence-rd., Tottenham, N.15. *Midlothian*: Edinburgh National Library of Scotland, adaptations to form new boiler house and fuel store, Messrs. Hanratty and Paul, 74, Leith-walk, Edinburgh. *Somerset*: M.O.W. Supplies Stores, Polysulphin Works, Keynsham, re-roofing factory building, H. C. Wakefield and Sons, Ltd., Whitson st., St. James, Bristol, 1.

¶London (War Dept.).—Works contracts placed by W.D. during week ended July 26:—*Worcestershire*: Road work, N. W. Dunn & Co., Wellesbourne. *Salop*: Miscellaneous, G. Linnecor & Son, Ltd., Birmingham 6. *Denbighshire*: Miscellaneous, G. F. Summer & Son, Ltd., Wrexham. *Anglesey*: Heating and ventilating, Comyn Ching & Co. (London), Ltd., London, W.C.2.

Northants: Building work, Haynes & Sons (Daventry), Ltd., Daventry. *Kent*: Building work, Whyatt Builders, Ltd., Streatham. *Surrey*: Hutting, Courtney Fairbairn, London, S.E.5. *Essex*: Concrete work, J. C. Flaxman & Sons, Ltd., Southend.

Louth B.C.—Erection of (a) four shops with flats over, and (b) 20 houses, for B.C. Vallance & Westwick, architects, Mansfield: *Ellis Thompson & Co., Ltd., James-st., Louth, £10,814 and £21,332.

Ludlow (Salop).—10 houses at Knowbury site, for R.D.C.: *C. W. Preece & Co., Trimstone Works, Burghill, nr. Hertford, £18,785.

Manchester.—Works, for Regional Hospital Board: Additional accommodation at Ladywell Hospital, Salford, *Wm. Gornall & Sons, Ltd., Gore-st., Salford, £10,356. Bed lift and covered corridor at Fairfield General Hospital, *Thompson & Brierley, Ltd., Bury, £8,286. Bed lift at Aitken Sanatorium, *Fred Powell & Son, Bolton, £6,110. Extension and adaptations at West Park Hospital, Macclesfield, *Direct labour, £7,520. New bed lift at Monsall Hospital, Manchester, *G. W. Dawson & Co., Ltd., Manchester, £6,820. Extensions to operating theatre and maternity ward at Chorley & District Hospital, *J. W. Lee, Ltd., Chorley. Extensions to sanitary towers at "C" and "D" blocks and alterations to operating theatre at Oldham District General Hospital, *Septimus Taylor & Son, Ltd., Oldham, £4,376, £4,886 and £2,723.

Middlesbrough.—Erection of 72 houses on the Berwick Hills site, J. A. Kenyon, B.E.: *R. H. Bailey & Son, Middlesbrough (44 houses); *W Taylor & Sons, Middlesbrough (28 houses).

Newcastle.—Extensions to a factory on West-rd., Newcastle: *Hadden & Hillman, New Bridge-st., Newcastle-on-Tyne.

Newcastle-on-Tyne.—Erection of officers' houses at High Gosforth, Newcastle-on-Tyne, for the Northumberland Territorial Association: *Middlemiss Bros., Stepney Bank, Newcastle.

Northallerton.—Erection of a laboratory at Northallerton, for the Milk Marketing Board: *Binns, Ltd., Corporation-rd., Middlesbrough.

Nottingham.—Houses, for T.C.: 102 at Arnold-rd. site, Bestwood, *J. W. Stamp & Co., Ltd., Bobbers Mill, Nottingham, £146,644. 33 at Fernwood estate, *Thos. Bow, 45, Lamartine-st., Nottingham, £47,917. (Ext. to contract.)

Notts.—New schools, for E.C.: Carlton sec. gram., *A. G. Clower, Ltd., Mansfield-rd., Daybrook, nr. Nottingham, £165,993. Mansfield Woodhouse Coxsla. infants', *Greenwoods (Mansfield), Ltd., 2, Wood-st., Mansfield, £29,800.

Penrith.—16 houses at Kirkoswald, for R.D.C.: *H. Todd, Kirkoswald.

Rochford.—Erection of dwellings at Rochford Garden-way, for R.D.C. Architects, D. C. Denton Smith and Partners, 40, Regent-st., Cambridge. Quantities by Babbs & Sons, London. 10 houses,

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*Mr. S. Tyler, Lynwood, Harewood-ave., Hawkwell, Rochford, £12,361; 6 bungalows, 2 houses and 4 flats, *Bysouth & Son, Hockley, £13,081; 6 houses and 4 bungalows, *Bysouth & Son, Hockley, £11,593.

Rothwell.—Erection of 26 houses at Haigh-rd. site, for U.D.C. R. A. Easdale & Son, architects, County-chbrs., Bradley-st., Castleford. Quantities by R. A. Easdale & Son: *C. Brunt & Son, Cinder-la., Whitwood Mere, Castleford, £37,046.

Ruabon.—Phase 1 of new girls' school, for C.C.: *A. E. Davies & Sons (Builders), Ltd., 53, Court-rd. Wrexham.

St. Marylebone.—121 flats and maisonettes at Wellington-rd.: ‡W. Moss & Sons, Ltd., North Circular-rd., N.W.2, £378,676.

Sheffield.—Works, for Regional Hospital Board: Conversion of 3 wards into paraplegic unit at Lodge Moor Hospital, *Bertram & Illingworth, Ltd., Niagra Works, Wadsley Bridge, Sheffield, £7,180. Extensions at Doncaster Infectious Diseases Hospital, *T. Jenkinson & Sons (Doncaster), Ltd., Bentley-rd., Doncaster, £3,675.

South Shields.—Erection of 174 houses at Simonside, for T.C. John Reid, B.E.: *Direct labour, £239,200 (in place of tender withdrawn).

Stockport.—68 houses at Brinnington estate, for T.C.: *Geo. Wimpey & Co., Ltd., London, £95,148.

Sunderland.—Additions to the Pallion engineworks of William Doxford & Sons: *Brims & Co., Ltd., Pandon-bldgs., Newcastle-on-Tyne.

Wakefield.—32 flats at Gill Sike and 20 flats at Flanshaw estate, for T.C.: *W. H. Nicholson & Sons, Ltd., Mafeking Works, Wakefield.

Wallasey.—Erection Leasowe sec. mod. sch., for C.B. W. I. Clayton, Borough Architect: *Boultons (Bebington), Ltd., School-la., Bebington, Wirral.

Walsall.—94 houses at Field-rd. site, for B.C.: *United Construction Co., Ltd., Walsall, £119,562.

Walsall.—Erection of 94 houses at Field-rd. estate in two contracts of 62 and 32 houses, for T.C. M. E. Habershon, O.B.E., Boro' E. Quantities by Collins & Britton: *United Constructions (Walsall), Ltd., 54, Green-la., Walsall, £119,562.

Warrington.—Alterations to wards 1 and 3 at Isolation Hospital, for Reg. Hosp. Brd.: *R. W. Collin, 12, Marson-st., Warrington, £10,332.

Wigan.—Accommodation for resident medical staff at Billinge Hospital, for Reg. Hosp. Brd.: *W. J. Bickerstaff & Sons, Ltd., Seven Stars Bridge, Wigan, £8,292.

Wimbledon.—Housing development, 22-28, Haydon-park-rd.: *Woodcock Bros. (Wimbledon), Ltd., £6,759.

Wimbledon.—Four houses, 69-75, Havelock-rd. and 39, Kohat-rd.: *J. A. Nix, £7,310.

Woolwich.—DWELLING.—B.C. are to approve the erection by direct labour of 26 dwellings on All Sain's' Church and Vicarage site, Cantwell-rd., Plumstead, at a cost of £53,594.

Worksop.—44 flats at Talbot-rd., Manton, for T.C.: *Gregory Flats, Ltd., Worthing.

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